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Table of Contents .....	Text Page	312
Advertisers' Index .....	Advertising Page	110
Classified Advertisements....	Advertising Pages	72-78
Buyers' Directory.....	Advertising Pages	82-108
Our Publicity Page.....	Advertising Page	68

### Rubber and National Interdependence

FOREIGN observers note as anomalous the fact that Americans, who consume an enormous quantity of various basic materials produced overseas, should single out but one material—rubber—to bear all the “undesirable alien” odium. They wonder why those concerned in the

growing and distributing of this indispensable commodity should be reproached like a common enemy, despite the fact that their enterprise in vastly augmenting the inadequate Brazilian rubber supply, for instance, alone made possible the remarkable expansion of the American automobile industry. They note as incongruous, too, the fact that while Americans also import great quantities of coffee, tea, silk, hides, steel, tin, nickel, fruit, sugar, cocoa, gums, wool, oils, wood pulp, chemicals, Egyptian cotton, and numerous other goods, yet strangely enough, justly or unjustly, the producers and exporters of such articles enjoy singular immunity from hostile criticism.

The overwhelming predominance of the United States in the manufacture of automobiles and the most typically essential part of their equipment, tires, and the important part the motor car plays in the national life, may readily account for the more intimate concern which Americans display in the rubber than in any other market. What is less easy to explain is why many should be inimical to the rubber-growing industry while apparently satisfied with all others. It is no competitor of any American industry. Rubber is and must long remain a tropical product. Like many another basic material it has had its more or less cyclical ups and downs in price, but there is no reason to believe that it will ever become really scarce. Plantings will be increasingly extended with a good price incentive, despite all the perfervid warnings to the contrary.

Nor can Europeans understand the reluctance of Americans to concede dependence upon foreign products. Priding themselves on a bountiful country and isolation termed splendid, they had long laid the flattering unction to their souls that they needed no outside aid; and they had almost convinced themselves that they could forever export on a prodigious scale without taking considerable foreign goods in exchange. However, while America is still far from being international-minded, its vision is broadening, it is beginning to realize that self-sufficiency is self-delusion, that it has much at stake in foreign fields; and that a vast volume of goods will always be bought abroad in places best suited to their economic production, and from those whose skill, foresight, and courageous and considerable investment have earned them trading advantage. If America would enjoy similar benefit, it must cease being insular, recognize the need of buying as well as selling abroad, cultivate closer relations overseas, and learn the outstanding lesson of economic geography—the interdependence of nations.

### A New Synthetic Mirage Looms

AN output of 90,000 tons of rubber yearly from the waste diolefines, now said to cost the petroleum industry \$9,000,000 annually for removal, was envisioned at the recent convention of the American Association for the Advancement of Science. It was intimated that the now objectionable hydrocarbons could be readily polymerized into a substance having a molecular structure

quite identical with the given  $C_{10}H_{18}$  formula of caoutchouc, and thus afford an abundance of synthetic rubber. President James F. Norris of the American Chemical Society has also been placed on record as a believer in similar utilization of petroleum constituents.

This is encouraging, and reaffirms much that was forecasted in this journal nearly three years ago concerning a potential supply of rubber from petroleum and kindred hydrocarbons. It is well known that synthetic rubber can be made in a laboratory, but its production on a commercial scale still remains a baffling problem. The point is stressed that the petroleum product will be chemically pure. But of what practical advantage would it be to put it, for instance, in the class of absolute alcohol? Most of the synthetic made thus far has been even too pure to be serviceable. Fault is found that it lacks "life" and is too hard to vulcanize, shortcomings attributed to deficiency in resins and proteins, which impart to natural rubber a seemingly indispensable quality.

The brilliant achievements of the chemists in so many directions have led us to expect from them even astounding things, and they may yet supply those essentials; but in fairness to them we must not expect this hurdle in the race for rubber to be surmounted very soon. Indeed it is quite improbable that the crude market will get any serious shock from this source in the near future; as it is also unlikely that this newest synthetic prospect will alter the plans of American rubber planting enterprises nor perceptibly lessen the activities of astute rubber raisers in the Far East.

### Management and Men

THE fundamental problems of the rubber industry are concerned with material, machinery, methods, money, and markets. The recognized importance of human relations in the rubber factory places a sixth *M*—men, in this important alphabetical list. Progressive rubber executives have long recognized the significance of human relationship as a major problem in industrial progress. However there are exceptions. One manufacturer states: "We have neglected assisting our foremen who in the last analysis are the connecting link between the management and the men. We have paid good money in research on machinery and product. We have studied costs and have made an attempt to eliminate waste. We have added to our buildings and have studied processes. We must reluctantly admit we have neglected our human relations. Although belated we are planning on working through our foremen as the key to better understanding."

THE GROWING OF RUBBER BY AMERICAN CAPITAL MUST in no sense be construed as an act of reprisal. It is simply good sound business. We Americans should draw this lesson from the present rubber controversy and address ourselves earnestly and actively to the real problem, which is to insure at all times a substantial portion of our basic needs.—W. O. Rutherford.

RADIATOR HOSE IS NOT PERFECT YET. ALTHOUGH compounded to resist heat, rust, acidulous and calcareous water, and all sorts of leak-stopping mixtures, apparently it still leaves something to be desired. Chicago police, having tried some moonshine liquor as an anti-freeze fluid in their automobile radiators, found that in five days it fairly ate the core out of the hose. If they will supply samples of the liquor to our rubber laboratories no doubt a moonshine proof hose may be evolved.

IN AN EDITORIAL, "DOLLAR RUBBER AGAIN?" in *The India Rubber World* of March, 1922, it was plainly pointed out that despite the seeming tendency of crude rubber to remain cheap for a long period, two conditions were developing that would inevitably tend to make rubber dearer. One was the neglect of plantation upkeep that discouragingly low prices would occasion, and which could only result in lessened supply apart from any restriction; and the other was the certain increase in rubber manufactures. Some reflected, planned ahead, and profited; but too many just trusted to luck and lost.

TWO RECENT DEVELOPMENTS MAY GO FAR TOWARD restoring the popularity of the rigid airship or dirigible which suffered through perhaps avoidable disasters to such vessels here and abroad. They are the production of helium at low cost from highly-heated sand, as claimed by German chemists; and the launching of an airplane from a British army dirigible while the latter was in flight. Much of the discredit that has been cast upon the aircraft with the huge rubber gas bags may be traced to partisans of the airplane who fear that the modernized Zeppelin may deprive them of the profit of carrying mails, merchandise and passengers. But the ills of the latter may soon be cured, and the lessons regarding sturdier construction and safer operation will not be lost. That there is a place for the dirigible in up-to-date transportation is incontestable. Plainly the craft supplies a need that airplanes cannot fill, and enterprising Americans will not be long in recognizing the fact. The need is not so much for airships of the complicated military laboratory type, such as was the Shenandoah, but rather of the commercial type, as exemplified in the Los Angeles; and rubber men, with much at stake, can do their industry and the nation generally a real service by combating an adverse propaganda.

THE MOST SIGNIFICANT FACTOR IN THE PROSPERITY that has favored the rubber industry during 1925, was the maintenance of a relatively high wage level concurrent with low production costs. Improved factory administration, new processes and specialized machinery, have been responsible for efficient production and the consequent reduced cost per unit of production. This has made possible the existing high wage level without commensurately increasing the price of rubber goods.

## Rubber Prices Probed by United States Government

House Committee on Interstate and Foreign Commerce Hears Prominent Rubber Men on British Restrictions—Americans to Grow Rubber

**I**r all started in 1922 when the British government enacted the plan drawn up by Lord Stevenson presumably for the protection of the British plantation industry. The plan became known as the Stevenson Act and its purpose was primarily to effect a control on the exports of crude rubber from British possessions in the Middle East. When this act was passed, the price of crude rubber slumped from an average of 75 cents a pound for over the previous five years to a price averaging 16 cents for 1921 and 21 cents for 1922. The purpose of the act was to stabilize the price of rubber at 36 cents which price it was asserted afforded a satisfactory profit to the planter.

But the operation of the Stevenson Act, it is claimed by Americans, went far beyond its purpose of stabilizing the price at 36 cents. It reduced the production of rubber from between 40 to 60 per cent of the potential supply. These were conditions under which the law of supply and demand could not operate. And it was because the law of supply and demand was thus prevented from operating that the price of rubber rose last July to \$1.20 per pound. When the price began to rise acutely our rubber manufacturers requested the British authorities to liberalize their scheme, but it was many months before anything was done toward releasing more rubber than the plan prescribed. And even today, in the face of the present high price of rubber, the amount which the growers are permitted to export is estimated to be 35 per cent below the potential production.

Because of the great interest aroused throughout the country by Secretary of Commerce Herbert Hoover, the lower branch of the government started an investigation to probe the charges of monopoly in rubber and other raw materials through its Committee on Interstate and Foreign Commerce. The first meeting was held at Washington soon after the New Year. The most prominent rubber manufacturers and others connected with the rubber industry in this country were called to Washington to testify.

### British Statement of Stevenson Act

A special cable to the American press from London gave the British version of the enactment of the Stevenson Plan to restrict rubber exports. It declares:

There is no British rubber trust for if there was there would have been no need of a Stevenson Committee. It is just because there is no trust that a committee was formed by the Colonial Office. Rubber growers declared that the only way to save the industry was to adopt a policy of restriction of export.

There was primarily no intention of confining it to British growers, and every effort was made to induce the Dutch plantations to agree to the same arrangements. Only when the Dutch declined to cooperate did the restriction become definitely a British measure, and the Colonial Office was not called in until it became evidently impossible to persuade all the British concerns to observe it.

The committee, organized under Lord Stevenson, was designed to represent all the interests concerned with rubber. The government had two members upon it and had no power to control its findings.

The committee decided that a measure of restriction was necessary if the industry was to be saved. It was agreed that the restriction, to be effective, must have government authority behind it, and consequently the Legislatures of Ceylon and the Federated Malay States were invited to make modifications in their customs regulations necessary to satisfy the committee's recommendations.

### Hoover Outlines Problem

Secretary Hoover, speaking as the representative of the Coolidge Administration before the House Committee on Foreign Commerce early in January, fired the first official broadside against foreign government monopolies in general and the rubber restrictive act in particular. He assailed the British rubber group. In a secret session of the committee held at his request, Hoover read letters between the State Department and the British Foreign Office dealing with the rubber situation. The correspondence clearly showed Great Britain had no intention to modify the Stevenson Act.

The problem that confronts this country, declared Hoover, was one that could not be solved by acquiescence and was only aggravated by retaliatory action. Yet American importers were unable to protect themselves against foreign monopolies without some assistance from the United States Government. The remedies for temporary relief suggested by the Secretary called for greater economy in the uses of various products, extension of sources of supply, and in certain fields the development of synthetic chemistry. He further said:

Given time, all these things will remedy themselves by inexorable economic law. It may be so, but in the meantime we pay out billions while the law operates. And with governmental controls these inexorable results can be delayed over many years.

The best and most permanent cure for this threatening evil in the world is for us in our strength to demonstrate that we can secure freedom in our raw materials, that thereby these combinations cannot succeed economically; that we need not do this by reprisals or by threats, but by setting up some such measures within our own borders and through our own agencies and operations abroad as will bring relief.

### Government Investigation.

Proceeding with its investigation, the House Committee called to Washington the foremost leaders in the rubber manufacturing world. The first witnesses scored a surprise when they charged that the representatives of the British rubber growers broke a promise that prices of crude plantation rubber would not exceed 36 cents a pound under the Stevenson plan. The distinguished witnesses who made the charge were F. A. Seiberling, president, Seiberling Rubber Co., Akron, Ohio, and formerly head of the Goodyear Tire and Rubber Co.; W. O. Rutherford, vice-president, Goodrich Rubber Co. and ex-president Rubber Association of America; and A. L. Viles, general manager, Rubber Association of America.

Mr. Seiberling declared:

That a British committee that visited the United States in January, 1923, solemnly pledged to American rubber manufacturers that the Stevenson plan would stabilize prices but would not advance them beyond a reasonable and fair figure. This commission, which came to this country at the instance of Sir Joseph Stevenson, author of the Stevenson Act, broke faith with their American customers.

He urged that the United States prepare for the future by raising rubber in the Philippines, and recommended that the Federal Government combine with private capital to exploit rubber production in the islands.

Mr. Seiberling said that his surveys in the Philippines had convinced him that all natural conditions in the archipelago were favorable to production of rubber on a large scale. To establish such an industry there, he said, it would be necessary for the Philippine Legislature to remove all restrictions on land holdings and the prohibitions against importation of coolie labor.



### Ambassador Houghton Interviewed

At the same hearing W. O. Rutherford said that:

The British "control" of rubber is unsound economically and "harmful" in its effects upon the rubber trade generally. As remedies, he suggested more careful use of products in which rubber is used and recovery of old rubber for remanufacture. The witness told the committee that Secretary Kellogg had discussed the rubber situation with American manufacturers and that after this exchange of views the Secretary had instructed the American Ambassador to London to make representations to the British Government. He praised the manner of Ambassador Houghton in dealing with the rubber program.

Price fluctuations in the rubber market jeopardize the rubber-using industries in the United States. This is not merely an automobile tire question. Rubber is used in 30,000 articles of commerce. It vitally affects the lives of our people. It is a world problem that demands the serious attention of our best minds.

### Cooperative Buying Suggested

A. L. Viles recommended:

A system that would assure cooperative buying on the part of American dealers. He said a sudden reduction in price of crude rubber would cause great loss to American manufacturers. He knew of no demand of American users of rubber for price reduction. Replying to questions, he said that he had no knowledge of American participation in any British combination to advance rubber prices. Nor did he know of the existence of an American "pool" which, it was suggested by a committee member, had been organized to impound and hold up the prices of crude rubber.

Mr. Viles said the possibility of quantity production of rubber in Brazil, Mexico and the Philippines offered a degree of potential relief, but not sufficient to offset restrictions on new planting in British possessions. He declared legislation in legalizing cooperative buying would eliminate the worst speculative features of the situation and that government aid in promoting planting projects would be a logical step in the future.

Continuing the discussion from the economic viewpoint Mr. Viles quoted figures to prove his argument. Among other things, he said:

Since the American consumer began to protest and to take measures in his own protection with the assistance of Secretary Hoover the price has fallen from \$1.10 to about 90 cents. Taking our normal imports next year at 900,000,000 pounds as against 860,000,000 imported in 1925, this reduction of 20 cents a pound is of course an advantage of \$180,000,000 to the American consumer for the next twelve months, assuming that prices do not go above this during that period.

But, on the other hand, this 900,000,000 pounds of rubber at the oft-assured price of 36 cents would cost the American consumer about \$300,000,000, whereas at 90 cents it would cost about \$800,000,000.

If the price of rubber was to go to 90 cents or even \$1.10 under a free flow of the law of supply and demand, the American consumer would make no complaint because he would say at once, this will induce further rubber production, it will bring out all of the capacity of the producing industry and we will secure an amelioration of the situation. But this can scarcely be said when there is a restriction on production which prevents the industry from responding by way of increased production to a price stimulus.

### Firestone Urges Government Protection

A plea for government protection of American capital investments in foreign countries in rubber plantations was made before the House Committee by Harvey S. Firestone, president of the Firestone Tire & Rubber Co.

Mr. Firestone recited the events that have followed the restrictions imposed in the British colonies and his efforts to awaken the American people to the problem so that an independent source of supply might be developed. The campaign in the British colonies, he said, began in September, 1920, and he contended, it was plain that from the very beginning and even before the scheme became a law it was used for speculation and price manipulation.

"I was unsuccessful," said Mr. Firestone, "in obtaining the desired cooperation of other American manufacturers. I presume the reason for this was that they did not appreciate the conditions created by the rubber restriction act and had confidence in the assurance given them by the Rubber Growers Committee."

"I want to point out," Mr. Firestone continued, "that it is my opinion that if America is to attain any degree of independence in its source of supply of rubber as well as other materials which are now in the hands of foreign monopoly, our government must give proper encouragement to capital and must assure the industries interested that it will lend its utmost assistance in protecting our investments."

"Nor do I favor," he said, "any measures which may be regarded as in any sense retaliatory toward the British Government or any other foreign country. The proper solution of the problem, in my opinion, is the investment of American capital on a large scale in plantations for rubber production."

### Seeger Denies Price Boost

That manufacturers are not taking advantage of the high price of crude rubber to boost prices excessively was the emphatic statement of C. B. Seeger, president of the U. S. Rubber Co., before the House Committee.

Mr. Seeger said that present prices of tires represent only a reasonable gross profit to the manufacturers, on a basis of an average cost of crude rubber of about 70 cents per pound.

When asked for his opinion as to the advisability of this government encouraging the growing of rubber Mr. Seeger replied that this question is fundamental. It is a question of money. American capitalists are not in the habit of waiting for returns for the long period necessary in the cultivation of rubber. There are difficulties in the way of raising rubber in the Philippines, but with our sovereign responsibility over that territory we ought to be able to overcome them.

Mr. Seeger was critical of the restriction act, which he said had aided speculation in rubber production. Speculation, he thought, was in part responsible for the high prices of rubber. He asserted that the Stevenson plan unwarrantably interfered with the economic law of supply and demand and that it placed the United States at the mercy of Great Britain in rubber supplies. He favored some system of competitive buying although he doubted whether it would prove efficacious in correcting the evils under discussion.

### Attitude of the Coolidge Administration

Several of the men testifying before the House Committee urged government financial assistance to start plantations in the Philippines. But it was made very plain at the outset of the investigation that President Coolidge opposed any plan which called for federal treasury appropriations to establish a crude rubber industry in the Philippines. The President declared that he opposed the principle of federal loans to industry and asserted the American rubber manufacturers were able to finance their projects through ordinary banking channels.

### Manufacturers Accept the Challenge

Knowing that federal loans could not be had the manufacturers of this country were not long in arriving at a solution of their serious predicament. On January 14 the Rubber Association of America and the National Automobile Chamber of Commerce announced plans to protect themselves from foreign domination. The N. A. C. C. authorized an appropriation of \$10,000,000 to assure an adequate supply of rubber at reasonable prices.

A special committee named by the directors of the N. A. C. C. decided at a meeting on January 13 on the following steps of immediate action: To incorporate immediately, in the State of Delaware, to issue a call today for stock subscriptions from 102 automobile companies. To choose executive officers and select headquarters in New York. This was placed in the hands of a special committee, to determine the advantage of different sections of the world for rubber production.

Meanwhile, according to newspaper reports, The Rubber Association of America is working on a plan which is to provide for the incorporation of a planting company. The directors have announced that the details will soon be made public. They are said to provide certain yearly payments over a period of five years. This capital is to be used in acquiring and developing new rubber plantations.



# The Rubber Association of America

## The Annual Meeting

THE annual meeting of the association convened on January 11, 1926, at 11 a. m. at the Hotel Commodore, New York, N. Y. The reading of the call for the meeting and the minutes of the previous one being dispensed with, the reports of the general manager and treasurer were unanimously accepted.

### Changes in By-Laws

A change was made in the by-laws whereby the Nominating Committee will nominate for directors as many names as there are directors to be elected. Also, any other eligible member may be nominated (from the floor) for election at the annual meeting.

The other change in the by-laws effected the removal of crude rubber importers, dealers, and brokers from firm membership to affiliated membership.

After considerable debating, the amendment removing rubber reclaimers from firm membership to affiliated membership was voted down.

### Election of New Directors

Following the balloting it was announced that the following directors were elected for a term of three years: George B. Dryden, Dryden Rubber Co., Chicago, Illinois; E. B. Germain, Dunlop Tire & Rubber Corp., Buffalo, N. Y.; A. B. Newhall, Hood Rubber Co., Watertown, Massachusetts; William O'Neil, General Tire & Rubber Co., Akron, Ohio; W. O. Rutherford, The B. F. Goodrich Co., Akron, Ohio.

The vacancy created on the Board of Directors by the resignation during the past year of A. L. Scheuer, was filled by the election of Samuel Woolner, Jr., whose term will expire at the end of 1926. J. A. Lambert was elected a director in place of Charles T. Wilson who resigned.

### Election of Officers

The Board of Directors went into session and later announced the election of the following officers for 1926: Joseph C. Weston, president; George M. Stadelman, first vice-president; Charles B. Seger, second vice-president; A. L. Viles, general manager; Samuel Woolner, Jr., treasurer; E. M. Bogardus, assistant treasurer; Charles Neave, general counsel.

### General Manager's Report

A comprehensive report prepared by A. L. Viles, general manager, summarized the accomplishments of the association during 1925, and covering rubber goods merchandising, manufacturing, foreign trade, accounting, statistics, traffic, and cooperation with other associations.

The meeting convened at 2 p. m. and President Rutherford spoke of the critical problems confronting rubber manufacturers, makers of automobiles, and the consumers of rubber products the world over.

### President Rutherford's Address

After reviewing the past year's business that has been favorable to all industries, he said in part:

The rubber industry has completed a prosperous year. We are firmly entrenched in the country's first ten leading industries.

The industry perhaps was never on a sounder or better basis than at the present time. Total sales of all rubber products for 1925 will be approximately \$1,250,000,000.

The tonnage growth of crude and reclaimed rubber in the industry during the year has been approximately 25 per cent. This means that if the present price of crude rubber continues for 1926, the crude rubber bill of the American industry alone will run in excess of \$800,000,000. Herein lies the danger, for if the

crude rubber market collapses, it is conceivable that the industry might be faced with enormous losses.

What we really need is rubber stabilization. No other basic commodity has been subject to such tremendous fluctuations in such short spaces of time. Manufacturers can hardly adjust their selling schedules to a rapidly fluctuating market, in fact 60 to 90 days, or even more, are required to make necessary changes in a rapidly advancing market. Rubber at 14 cents was just as bad as rubber at \$1.14.

I have no quarrel with the British Rubber Growers' Association. Candor compels the statement that they have shown a spirit of conciliation and appreciation of our situation, though they have taken no effective measures to alleviate it. What are the remedies?

Since rubber is one of the most necessary requirements of commerce and society, and since this country consumes 70 per cent of the world's production, America should grow rubber in its dominions having soils fertile to its cultivation, or in such other countries removed from restricted areas where guarantees are provided against excessive taxation or inimical legislation that would throw us out of competition in the world's markets.

The growing of rubber by American capital must in no sense be construed as an act of reprisal; it is simply good, sound business. We Americans should draw this lesson from the present rubber controversy and address ourselves earnestly and actively to the real problem, which is to insure at all times a substantial portion of our basic needs.

As an emergency measure to cope with the present speculative condition, pool buying by all the manufacturers has been considered with the belief that it would reduce raw material inventories to the minimum as well as reduce vastly the financial risk of each individual company.

We should persuade the motor car industry to adopt the Rubber Association of America's standard of tire sizes. If these standard sizes could be used for a period of several years with a minimum of alteration a considerable saving to the public and the manufacturers would result.

There is still another plan, which is now operative and holds much possibility for the future, and that is the greater use of reclaimed rubber. Through intensive work in our laboratories we can greatly increase the useful functioning of reclaimed rubber, and it is not at all imaginative to say that the proper employment of this product combined with lower grades of natural rubber, may save the industry from another 1920 crisis.

In charting our course for 1926 we have in the background a statistical picture. It appears as follows: It is estimated that the world will consume 5 per cent, or 25,000 tons, more rubber in 1926 than in 1925, and that the U. S. A. will consume approximately 3 per cent, or 10,000 tons more in 1926 than 1925.

World into sight—Jan. 1, 1925 (Rickinson).....	Long Tons	167,648
World production—1925.....		510,000
Available—1925 .....		677,648
World consumption—1925.....		550,000
World into sight—Jan. 1, 1926.....		127,648
World production—1926.....		625,000
Available—1926 .....		752,648
World consumption—1926.....		575,000
World into sight—Jan. 1, 1927.....		177,648
1926 World crude consumption.....	Long Tons	575,000
United States.....		400,000
Others .....		175,000
1925 World crude consumption.....		550,000
United States.....		390,000
Others .....		160,000

Rickinson is authority for "World in Sight, Crude, January 1, 1925—167,648 long tons." It is estimated that the World in Sight January 1, 1926 will be 127,648 tons, this represents a loss of 40,000 tons. However, the estimate for World in Sight January 1, 1927—177,648 tons shows a gain for the year 1926 of 50,000 tons, which means that the world's supply will be 10,000 tons greater January 1, 1927 than on the same date 1925.

## Officers and Directors of The Rubber Association, 1926



Samuel Woolner, Jr.  
*Treasurer*



F. A. Seiberling



W. O. Rutherford



G. B. Dryden



A. L. Viles  
*General Manager-Secretary*



G. M. Stadelman  
*First Vice-President*



J. C. Weston  
*President*



C. B. Seger  
*Second Vice-President*



J. A. Lambert



C. C. Gates



W. F. Pfeiffer



G. E. Hall



W. O'Neil



E. B. Germain



E. H. Broadwell



A. B. Newhall

It is estimated that the U. S. A. will consume approximately 46 per cent or 60,000 tons, more reclaim in 1926 than 1925. This will result in approximately a 12 per cent tonnage increase—70,000 tons or 156,800,000 pounds.

1926 U. S. consumption of crude.....	400,000
U. S. consumption of reclaim.....	190,000
	590,000
1925 U. S. consumption of crude.....	390,000
U. S. consumption of reclaim.....	130,000
	520,000

Approximate 12 per cent increase.....70,000 tons (156,800,000 pounds)

I anticipate no tonnage increase the coming year in mechanical rubber goods and footwear over 1925. The U. S. consumption figures have been almost entirely based upon the promise of an estimated 5 per cent increase in tire production over 1925, from approximately 58,000,000 to 60,900,000 or 2,900,000 casings, and approximately 5,000,000 inner tubes.

In estimating the tonnage required for a 5 per cent increase in tire production, due allowance has been made for the greater amount of crude and reclaim required per unit, on account of the higher proportion of production going to balloon tires, large size pneumatic truck and bus tires. Figures for the past few months

show about one pound more of rubber and reclaimed per casing than for 1924. It is estimated that this trend will continue during 1926.

This you will observe gives us approximately the same statistical world position on January 1, 1927, as on January 1, 1925. I need scarcely remind you that rubber on January 1, 1925, was selling at 38 cents per pound. Since that time conditions were constantly growing worse, whereas as we approach 1927 the reverse should be the case.

As I conclude this statistical picture there recurs to me an incident during my visit in London last summer. I went out to Kew Gardens, and there saw the plot where Sir Henry Wickham, the father of the plantation rubber industry, had planted the original shipment of seedlings from Brazil, and which were subsequently removed for transplanting in the Far East. Therefore it might be well to reflect that the rubber industry owes its present position to the vision and faith of the British.

The greatest word in our business language is cooperation and, gentlemen, our problems, no matter how complex or weighty, can be solved by cooperative effort. Let us apply it.

After a resolution was passed to send a word of greeting and appreciation to Sir Henry Wickham, the founder of plantation rubber growing, the meeting adjourned.

## Annual Dinner of the Rubber Association

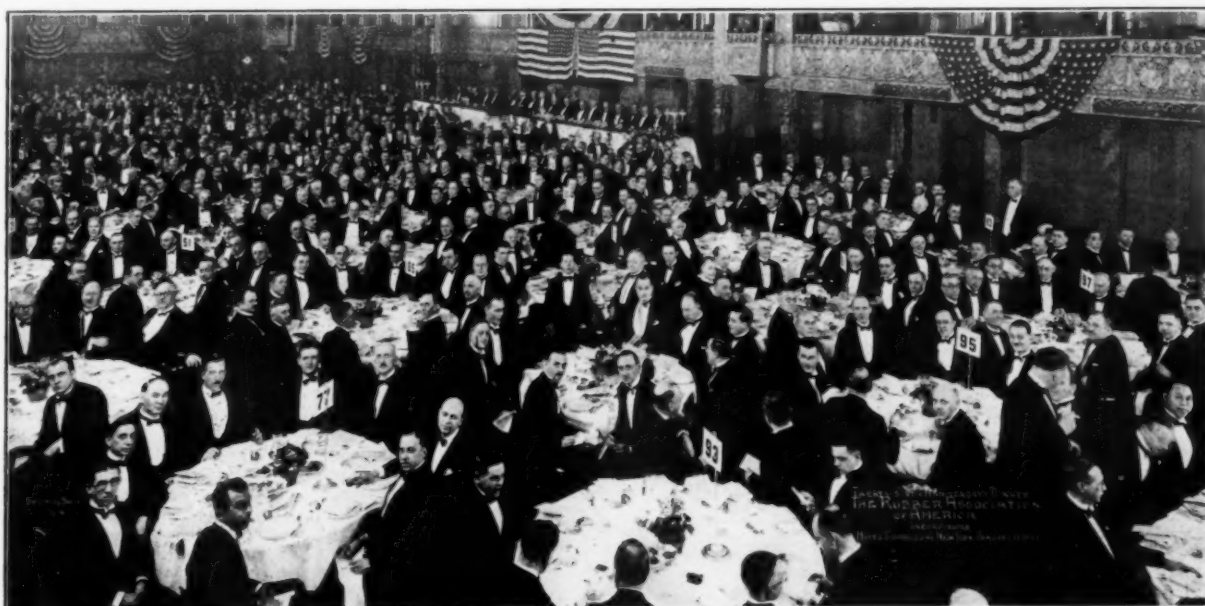
**E**IGHT HUNDRED AND SIXTY members and guests attended the twenty-sixth annual dinner of The Rubber Association of America, held at Hotel Commodore, New York, N. Y., on the evening of January 11, 1926. There was an excellent menu and good instrumental and choral music to entertain the diners, and Mary Lewis, soprano of the Metropolitan Opera Co., sang most artistically. The speakers of the evening were, Samuel M. Vauclain, president, Baldwin Locomotive Works, and John Wesley Hill, chancellor, Lincoln Memorial University. President Rutherford acted as toastmaster.

### President Rutherford's Address

After the national anthem was played by the orchestra Mr. Rutherford said in part:

It is my privilege to extend, on behalf of the Rubber Association of America, a very happy welcome to our guests and friends. It has been customary to set aside one night each year for a get-together party, such as is taking place here tonight. We generally have a program that is interesting, instructive and entertaining—and, as I can assure you, tonight will be no exception.

This is a time to get better acquainted, a time to interchange



Twenty-Sixth Anniversary Dinner of The Rubber Association of America, Inc., Held at the Hotel Commodore, New York, N. Y., January 11, 1926



greetings, and to develop that spirit of concord and fellowship that is so essential and necessary, especially in an industry like ours.

Friendly greetings from the Rubber Association of Canada having been read, Mr. Rutherford said:

I want to thank the members of this association, the board of directors, the manager and his staff, for the splendid co-operation given me during my term of office. This is the third time that I have presided at your annual banquet. You might consider that it is a pretty easy job, and I am getting used to it. I will tell you that this is a kind of job you never get used to. But I am serious when I say, gentlemen, that I have enjoyed the privilege of this personal contact with you, and I want to thank you from the bottom of my heart for the loyal support that you have given me.

Mr. Rutherford then introduced the new president-elect, Joseph C. Weston, who made the following remarks:

My election to the office of president of the Rubber Association by the directors this afternoon was a genuine surprise. Therefore, I shall not have a great deal to say to you at this time.

I appreciate the honor and I realize that I have been given rather a large order to attempt to carry out the office as efficiently as my predecessor has done. However, I hope that with the support of my fellow officers and our very efficient general manager and his staff that the work may continue to be carried on in a creditable manner.

Mr. Rutherford speaking of George M. Stadelman's absence, said:

I regret to announce that one of the finest men in this industry, one who has always supported its policies and taken great initiative in their inauguration and execution, is ill tonight, but I am sure we have him in mind. The one who has been selected as the first vice-president is George M. Stadelman, one of the finest men on earth, and I suggest that we rise and drink a toast to him.

Mr. Rutherford introduced second vice-president elect, Charles B. Seger, who said that with the assurance of his great interest in the welfare of the association and the industry it represents, he could be relied upon to assist the good work in every way possible.

Here Mr. Rutherford paid a personal tribute to A. L. Viles, general manager of the association, and his able staff for the creditable conduct of association matters.

Treasurer-elect Samuel Woolner, Jr. was then introduced by the toastmaster, and spoke of the growth of the rubber industry, now one of the first ten industries in America, and producing over 30,000 different rubber articles which enter every avenue of trade and commerce, and which also serve the needs of society and mankind.

#### Mr. Vauclain's Address

Introducing the speaker of the evening, Samuel M. Vauclain, Mr. Rutherford said that it gave him great pleasure to present one of the greatest producers of transportation in our country. Prefacing his address with a humorous story, Mr. Vauclain said in part:

It is indeed a very great pleasure for me to be here this evening, and to come in close contact with so many great men connected with one of the largest and most important business associations of the country.

Just now the public press of this country would make it appear that the British rubber producers not only control the rubber situation of the world, but also are making the good people of the United States of America pay dearly for their lack of foresight in neglecting to secure a satisfactory source for their rubber requirements, which need was plainly indicated when the automotive industry began quantity production.

Rubber has been found to be absolutely indispensable in many lines of activity. But in no one line of activity does it play so important and necessary a part toward the progress of the nation as in the tires of automotive vehicles that are used for pleasure as well as for business.

Great Britain today is trembling as though she had the ague, concerning the future of all her manufacturing industries, and it is perfectly natural that not only the individual but the government should safeguard this industry that so thoroughly dominates the business of the world as does the production of raw rubber.

The newspaper articles of the day concerning this important matter are highly sensational, and we are told that war with all its horrors can be occasioned by trade relations, disturbed or strained, between the various interested nations. But you need

not give great consideration to this phase of the situation. You should have confidence in the cool-headedness of our representatives in Washington, and feel that there will be no interference with trade relations that could warrant any attitude toward us that would threaten war. But we should undoubtedly endeavor to protect certain industries in which we possess a similar power for control of the trade of the world. The use of American cotton in foreign countries excites in a measure the same feeling that is caused by the use of rubber in the United States.

It is also apparent that reprisals in lines of trade other than that of rubber are receiving the attention of British manufacturers or business men. The war in the cotton industry has been going on for many months, a war that American manufacturers should have been able to forecast, and occasioned entirely by the low cost at which American cotton has been sold to the manufacturer in Great Britain.

It is my belief that the difficulties, if any, that exist between the manufacturers of rubber goods here in the United States and the producers of raw rubber throughout the world will be amicably and satisfactorily adjusted, provided we do not attempt to stand on our hind legs and dictate when negotiations are in progress.

Why should we complain today if through the efforts of Sir James Stevenson the British producers have been able to control the market and supply of this material? Why should Americans manifest distress over the situation? It would appear to be, although perhaps I am not qualified to speak upon the subject, that if the rubber manufacturers of the United States were to combine and promote the cultivation of rubber trees for the production of rubber for their own uses the present situation, no matter how objectionable, would soon adjust itself to a more reasonable condition.

The capital necessary to establish our own rubber production does not seem large to us who are accustomed to doing business in millions. We should not be appalled by the magnitude of the proposition, but at least we should make a beginning.

Our general disposition in all lines of business and in all walks of life is to find fault with the other fellows, instead of finding fault with ourselves. If by due diligence we discover the weakness in our own structures and immediately strengthen the weakness in our own procedure, I am sure we shall be able to occupy a position of supremacy, not only in all lines of manufacture, but in the production of all raw materials that may be required to maintain our industries.

In the rubber trade let us pay the price now necessary, be good losers, stop squawking, and go to it. America for Americans, and American manufactures for the entire world.

#### Dr. Hill's Address

In presenting the next speaker the toastmaster recalled the fact that John Wesley Hill was a student of the immortal Lincoln and would talk about the character, achievements, and deathless influence of that great man. Dr. Hill said in part:

What was the secret of the influence of Abraham Lincoln? Not his statesmanship. Alexander Hamilton was probably a greater statesman; nor his oratory. Daniel Webster stands before us as the ideal orator. Nor his common sense. Benjamin Franklin wrote more maxims.

I think the secret is here. When a man discovers the purpose which God Almighty is projecting into the period in which he lives, when he discerns, appropriates and applies that purpose he is lifted into immortality by the very divinity and majesty of the idea with which he becomes allied.

He discovered the divine right of liberty in man, and he not only discovered it and laid it bare and demonstrated its regnancy and applicability but he applied it to the political and social and industrial life of this nation, so that America can no more tear the name of Democracy from her republican form of government, America can no more blot out her most sacred traditions and institutions, America can no more forget the chart and compass of her rights and her liberties, the Constitution of these United States, than she can become oblivious to the name of Lincoln, than she can forget that strange co-mingling of smile and tear, of sky and soil, whose life was an incomprehensible epic, and whose death was an inexpressible tragedy. Abraham Lincoln, who gave liberty to one race and freedom to another, who maintained constitutional authority, Abraham Lincoln, who preserved the Union and made us one, indivisible, great and irresistible, Abraham Lincoln, who upheld the most glorious banner of human liberty, the finest symbol of the free state and the free church, the world has ever known, the American flag.

President Rutherford cordially thanked the distinguished speakers on behalf of the members of the association and Mary Lewis concluded the program with a vocal selection.

# Mold Curing Balloon and Truck Tubes

## Advantages of a New Type Steam-Jacketed Mold and Loading Ring

By M. A. Flynn<sup>1</sup>

**I**NNER tube manufacturers are now facing problems unheard of two years ago that have resulted from the advent of balloon, bus and truck tires having a large cross section compared to a relatively small inside diameter. In handling these problems the tendency is toward a wider belief that all large cross section tubes should be molded, preferably in tire shape; also that splices should be made while the tube is in an unvulcanized state to secure perfect cohesion, and that valves should be cured in the tube regardless of whether of straight, angle or "S" shape.

As a result several methods of molding tubes are in use. Some manufacturers cure tubes in bolted molds while others use molds loaded in press type vulcanizers. Both methods are expensive when equipment and labor costs are considered.

### Steam Jacketed Molds

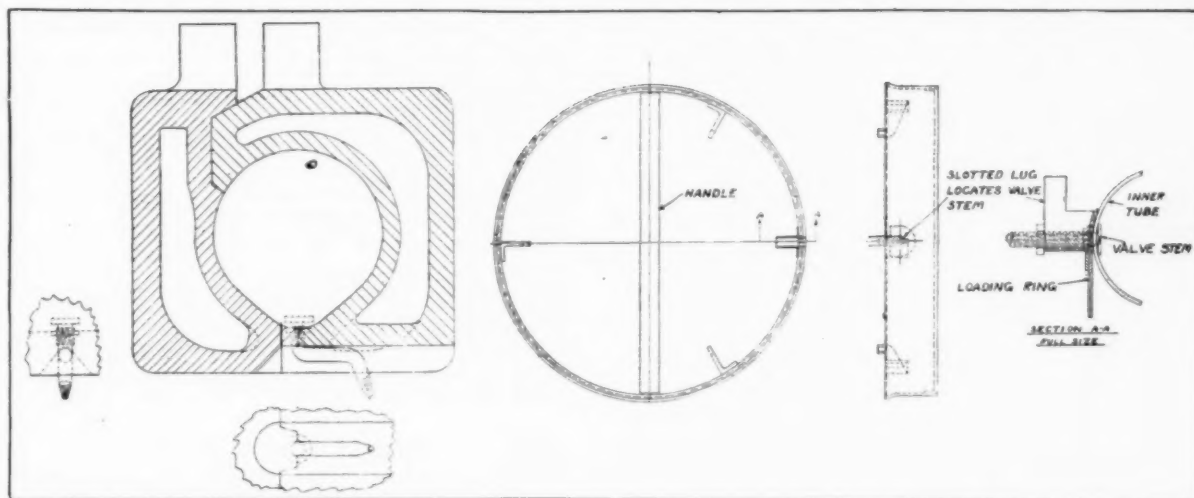
The steam jacketed mold offers great possibilities for maximum production per mold and the uniform cure of all parts. It permits the use of high internal pressures so that all parts are welded to-

### A New Type Steam Jacketed Mold

Patents are pending on a new type of steam jacketed mold which will assure positive results. It is a simple two-part mold, with no costly rings or containers, adaptable to use in any quick-acting press, its receiving part characteristic of the letter "C" and so designed that both joints of the mold are above center, which permits inserting the unvulcanized tube without danger of pinching or buckling. The overhanging lips of the "C" also prevent a tube from falling out of a mold standing on edge, as in a "Watchcase" vulcanizer.

With this mold the tube maker can cure valves of any design, straight, angle or "S" shape directly into the tube. He can stamp or engrave in relief any design or lettering it may be found desirable to place on the tube. And he can secure maximum daily production from each mold at minimum labor cost.

In this mold the operator can place a raw tube, after it has been spliced and with pad and stem in place, and know that all parts will be cured integrally and uniformly, especially the tread



FLYNN STEAM JACKETED MOLD WITH S-SHAPED VALVE STEM

LOADING RING FOR FLYNN C-SHAPE TUBE MOLD

gether—splice, valve pad around valve, and the plies of stock if calendered stock is used.

Steam and gas are the two most successful internal pressure mediums. Air, if properly treated to remove oil and moisture, may also be used. A production of 45 to 100 tubes per mold each twenty-four hours is possible, depending on the temperature and length of cure.

Steam jacketed molds with costly and frail loose rings or containers, however, give uncertain results due to lack of control over the expansion and contraction of the metals from which these removable members are made. Three heavy rinds or flashes where the mold parts join indicate a thinning out of the wall of the tube under the rind resembling the old-fashioned mold pinch. There is always the possibility of hidden defects when heavy rinds or flashes show at the parting lines of the mold.

and rim portions, without danger of thin spots, rinds or flashes. Parting lines are reduced to hair breadth dimensions, and because of the location of the mold joints no parting lines occur on the tread of the tube.

### Special Loading Ring

The special loading ring makes it possible for one operator to handle several presses, the number dependent upon length of cure. The device enables the operator to shape the tube by partial inflation before placing it in the mold. It permits him to register the tube and valve accurately on the receiving half of the mold, and with a gentle push to flip the tube into the mold. The loading ring is removed before the press is closed. The time of loading does not exceed ten seconds.

### No Special Building Process Required

In order to use this new mold, the present process of tube making need not be altered until the tube reaches the curing stage.

<sup>1</sup> Formerly production superintendent of the tire divisions of The Diamond Rubber Co., and The B. F. Goodrich Co., Akron, Ohio.

Tubes may be formed on tube machines or built up on poles from calendered stock. If desired the rim side of the tube may be reinforced to obviate the use of flaps. The mold handles such tubes as readily as tubes of uniform wall thickness.

### Molded Tubes Saleable and Durable

A molded tube is popular with the motoring public and should appeal to any selling organization. It is of extra smooth finish and fits the casing perfectly without ripples on the rim side, as well as snugly against the tread of the casing without over stretched rubber at any point. Splices are perfect in shape and there is a cohesion of the rubber that cannot be secured by any other method. Owing to the full size of the tube and splice there is no extra strain on the splice. Valves of any design are an integral part of the tube and there are no leaks. Using the mold here described and illustrated for curing tubes, the mold partings show two hair line marks only, neither of them on the tread of the tube which is of full thickness. Under the hair line marks there is no possibility of hidden defects.

### Foreign Trade Opportunities

Address and information concerning the inquiries listed below will be supplied to our readers through *The India Rubber World*, 25 West 45th Street, New York, N. Y.

NUMBER	COUNTRY AND COMMODITY	PURCHASE OR AGENCY
18,304	Denmark—Automobile tires.....	Agency
18,307	Denmark—Automobile tires.....	Agency
18,359	Italy—Rubber goods, especially toy gas balloons.....	Agency
18,371	Germany—Rubber belting.....	Agency
18,372	Germany—Rubber belting and other rubber goods.....	Agency
18,377	Netherlands—Balloons and other rubber toys.....	Sole Agency
18,398	Dutch West Indies—Rubber-soled shoes.....	Agency
18,414	India—Tires and tubes for automobiles and cycles.....	Purchase and Agency
18,416	Argentina—Cheap tires for low-priced automobiles.....	Purchase
18,417	England—Vulcanite for making fountain pens.....	Purchase
18,418	Iraq—Automobile tires.....	Purchase
18,419	Denmark—Rubber aprons, in various shades.....	Agency
18,420	Italy—Automobile tires.....	Agency
18,421	Germany—Automobile, truck, and motor cycle tires.....	Agency
18,422	Mexico—Rubber goods.....	Agency
18,423	Austria—Shoes, galoshes, and rubber gowns.....	Agency
18,424	Germany—Rubber toys and novelties, and rubberized cloth.....	Agency
18,425	Germany—Automobile tires.....	Agency
18,426	Egypt—Solid and pneumatic tires.....	Agency
18,439	Syria—Automobile tires.....	Agency
18,460	Germany—Automobile and truck tires, rubber goods.....	Purchase and Agency
18,461	Canada—Toy balloons.....	Purchase
18,462	Bolivia—Automobile, truck and motor cycle tires and tubes.....	Agency
18,463	Norway—Rubber shoes and overshoes.....	Agency
18,464	Norway—Rubber shoes, cloth and rubber overshoes, and bathing caps.....	Agency
18,490	Estonia—Solid tires for trucks.....	Purchase and Agency
18,498	Germany—Rubber belting.....	Purchase
18,507	Sweden—Bathing caps.....	Agency
18,550	Germany—Rubber specialties, rubberized fabrics, and sanitary rubber goods.....	Agency
18,551	Germany—Automobile tires.....	Agency
18,578	India—Automobile tires.....	Purchase and Agency
18,579	India—Toy balloons.....	Agency
18,630	Australia—Rubber footwear.....	Purchase
18,642	Egypt—Automobile tires.....	Agency
18,677	Italy—Rubber chemicals and pigments.....	Agency
18,701	India—Sanitary and industrial rubber goods, and toys.....	Purchase and Agency
18,702	Sweden—Rubber specialty goods.....	Agency
18,703	Switzerland—Rubber cloth for automobile hoods.....	Purchase or Agency
18,749	Portuguese East Africa—Automobile, motor cycle, and bicycle tires.....	Agency
18,780	Germany—Automobile tires.....	Purchase and Agency
18,781	Germany—Automobile tires.....	Purchase and Agency

### RUBBERIZED FABRIC EXPORTS

During the first ten months of 1925 American manufacturers of waterproofed automobile cloth and rubberized fabrics have exported goods to the value of \$1,236,565. Some of the leading markets have been the United Kingdom, Canada, Argentina, Mexico, and Australia. September and October shipments, at \$159,970 and \$148,477 respectively, have been the highest of the year.

### Rubber Trade Inquiries

*The inquiries that follow have already been answered; nevertheless they are of interest not only in showing the needs of the trade, but because of the possibility that additional information may be furnished by those who read them. The Editor is therefore glad to have those interested communicate with him.*

NUMBER	INQUIRY
734	Makers of anti-oxidants.
735	Manufacturers of hot water bottles interested in making connection in Sweden.
736	Ball making machinery.
737	Small rubber mill.
738	Firms supplying latex.
739	Disposal of small quantities of Pará rubber.
740	Removal of bloom.
741	Manufacturers of ABCilium.
742	Commercial reclamation of waste rubber.
743	Purchasers for mixers of rubber stamp compound.
744	Machine for trimming shoe lining after vulcanization.
745	Manufacturers of penetrometer that will register indentation of tile flooring.
746	Makers of collapsible bathtubs and washbasins.
747	Source of supply for pile fabric.
748	Medium rubber dam in rolls 6 inches by 18 feet.

### Foreign Trade Circulars

*Special circulars containing foreign rubber trade information are now being published by the Rubber Division, Bureau of Foreign and Domestic Commerce, Washington, D. C. The publications which give details of the rubber industry in some one country are marked with an asterisk.*

NUMBER	SPECIAL CIRCULAR
1060....	"Tire Exporters' Weekly News Letter."
*1061....	"Canadian Tire Exports During November, 1925."
*1062....	"Crude Rubber Re-exports from United States, Month of November, 1925."
1064....	"Tire Exporters' Weekly News Letter."
*1065....	"British Exports of Waterproofed Outer Garments, 1923-1924."
*1066....	"Re-exports of Automobile Casings from United Kingdom."
1067....	"Rubber Footwear Exporters' Monthly News Letter."
1068....	"Tire Exporters' Weekly News Letter."
*1069....	"Rubber Footwear Exports from United Kingdom During Month of November, 1925."
*1071....	"French Rubber Footwear Exports During November, 1925."
1073....	"Tire Exporters' Weekly News Letter."

### HEVEA RUBBER IN NIGERIA

*Tropical Agriculture* publishes a report by its correspondent in Nigeria on rubber in that territory. It seems that although some districts of the Benin, Warri and Calabar provinces are eminently suited to the production of rubber, yet the annual exports from this country amount to only 100 to 500 tons. The reason is that it is no longer possible to acquire land in Nigeria.

Before the present government was in existence, Europeans had obtained control over 3,000 acres which were planted to Pará rubber. Besides this area there are 5,000 acres of Hevea owned by natives who have estates varying from 2 to 1,000 acres in extent. The methods of upkeep and exploitation are primitive and the yields obtained are trifling. Besides Hevea, there are large numbers of Funtumia, some semi-wild, others commercial plantations.

The effect of the rubber boom is being felt in Nigeria too and even the lump and biscuit from Funtumia is in demand, current prices offered varying from 7d to 1s a pound.

### NYASALAND

In Nyasaland there were only 1,795 acres under rubber in 1924 as compared with 1,812 acres in 1923 and 5,936 acres in 1914.



## The National Automobile Show

**T**HE Twenty-sixth Annual National Automobile Show was held under the auspices of the National Automobile Chamber of Commerce in Grand Central Palace, New York, N. Y., January 9 to 16, 1926, inclusive.

The automobile show for 1926 was even more successful than any of the preceding exhibits. It occupied four complete floors of Grand Central Palace and was staged in colorful decorative surroundings that were alluringly suggestive of the pleasures of touring and camping.

The list of exhibitors was larger than ever but there were few radical changes in mechanical design in the passenger car models on display. Their novelty lay principally in changed body construction and design. The absence of open types was noticeable. Over 90 per cent of the cars shown were of the enclosed forms. The majority of the builders no longer produce the open types which will soon be a negligible quantity in car production. Of the passenger automobiles produced by the members of the National Automobile Chamber of Commerce 70 per cent were of enclosed models.

### Motor Car Registration and Tire Production

The accompanying chart compares on a ratio basis graphs of motor car registration and tire production in the United States from 1916 to 1925 inclusive with the estimated production of each for 1926:

Year	Motor Car Registration	Tire Production
1916	3,512,996	18,500,000
1917	4,983,340	25,850,000
1918	6,146,617	21,600,000
1919	7,558,848	34,300,000
1920	9,211,295	32,100,000
1921	10,448,623	27,267,000
1922	11,500,000	38,200,000
1923	12,880,000	45,000,000
1924	15,200,000	50,000,000
1925	17,500,000	55,750,000
1926*	21,500,000	65,000,000

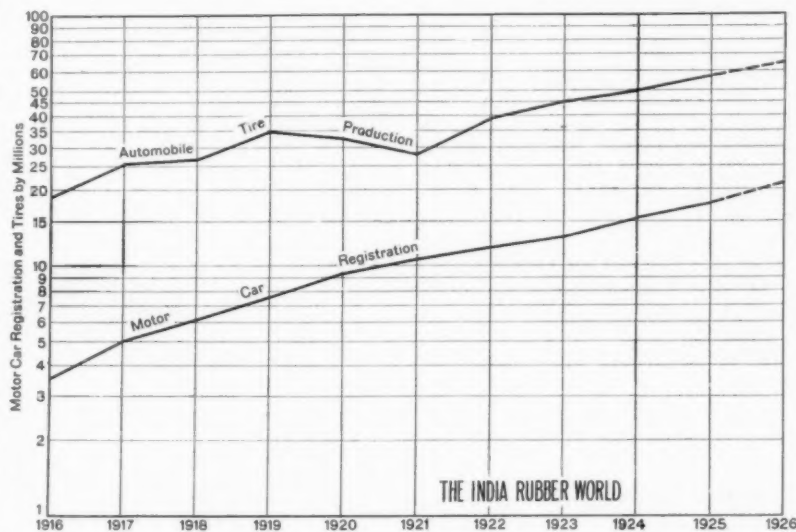
\*Estimated registration and tire production.

### Growth of the Automobile Industry

The automobile industry began in 1900 and in the intervening quarter of a century has risen to the rank of third in the list of the industries of the United States. The past year ranks as the record year of the industry with the outlook for the coming year one of continued prosperity. The following preliminary facts and figures compiled by the National Automobile Chamber of Commerce strikingly illustrate the size of the automobile industry.

The 1925 production of cars and trucks totaled 4,395,000, of which 3,833,000 were cars and 492,000 were trucks. This output was 20 per cent more than that of 1924. The wholesale values of last year's production were, cars \$2,500,000,000; trucks, \$500,000,000 or \$3,000,000,000 total. Tire production was 55,750,000. The

wholesale value of motor vehicle tire business was \$886,700,000. Persons employed in motor vehicles and allied lines numbered 3,200,000.



Ratio Graph of Motor Car Registration and Automobile Tire Production, 1916-25

### Outlook for 1926

The unanimous opinion of the automobile industry is that the present year will witness the continued expansion experienced in 1925 which demonstrated the remarkable buying capacity of the public. Normal increases are looked for over the country. Gains in the foreign trade of cars and trucks are predicted because exports the past year went well ahead of the market. The financial position of foreign countries today is better than at any time since the close of the war and

their need for motor transportation is increasing rapidly.

The production of automobiles in 1925 was 4,000,000 and leading car makers believe that the 1926 output will reach 4,500,000. Dependence is placed in the deferred payment plan which has made it easier for more people to own automobiles and the savings effected by new machinery and new construction methods are, by reason of competition, passed on to buyer.

### Automobile Accessories

The display of accessories occupied half of the space of the show and comprised the products of 200 exhibitors which, as usual, covered effectually the needs of the most exacting motorist in the matters of convenience, economy, utility and service.

Foremost in importance among motoring accessories are tire valves and inflation pressure gages. In the development and production of these articles A. Schrader's Son, Inc., Brooklyn, New York, has long been pre-eminent. This company's goods were effectively displayed in the form of giant illuminated valve and gage models. These were automatically operated giving to observers a clear understanding of their design and action. Three handy Schrader devices for the motorists' tool kit were included in the display, comprising star wrench for valve clamp nut; pump connection, and valve repair tool.

The American Chain Co., Bridgeport, Connecticut, showed a full line of Weed tire chains for tires of all types, also car bumpers, and an automatic "Leveler" or device for ensuring smooth riding over rough roads. It checks the speed of the car rebound on the principle of the floating drum and cable with rewinding tension springs set for light and heavy cars.

The Link-Belt Co., Indianapolis, Indiana, exhibited in action, their silent chain front end drive for automobile engines which has been adopted by the engineers and designers of 60 makes of cars, buses and trucks. Link-Belt timing chains are built for every chain drive engine, cartoned and labeled with make and model of car.

Cleveland Worm & Gear Co., Cleveland, Ohio, displayed typical worm and gear drives for passenger car and 3- and 5-ton truck service. The special advantages of the worm drive are quietness, high efficiency, uniform flow of torque, freedom of vibration, durability, and space economy.

Westinghouse Electric & Mfg. Co., Pittsburgh, Pennsylvania, exhibited storage batteries, rectigon battery chargers, cadmium battery tester and a number of useful, handy testing instruments for everyday use for the garage man and radio operator.

### The Ford Show

The Ford exhibition of Ford automotive products was held during the show week at the Ford Motor Co.'s building, 1710 Broadway, New York City.

In addition to the customary display of cars, tractors, road and farm equipment, the Ford metal airplanes were featured. They are designed and built for commercial use to transport loads through the air with profit to the owner. They are built in the factory of the Stout Metal Airplane Co., a division of the Ford Motor Co., at Dearborn, Michigan. These planes will carry a pay load of 1,000 pounds and have a merchandise capacity of 250 cubic feet. The average cruising speed is about 100 miles per hour, and the plane can remain in the air more than 5 hours at maximum speed without landing for fuel. It is a monoplane, built of duralumin. Its length is 45 feet 8 inches and wing spread 65 feet. It is powered by a 400 horsepower Liberty motor built by Ford. Its landing gear comprises two pneumatic tires and special rubber tension cord shock absorbers.

### Firestone Exhibit

In connection with the Ford show the Firestone Tire & Rubber Co., Akron, Ohio, exhibited crude rubber and cotton fiber as processed in the making of Ford tires together with samples of high pressure and balloon tires for the Ford, Lincoln and other cars. By means of a bioscope, moving pictures were displayed showing the comparative ease of riding on balloon and high pressure tires over rough pavement and broken up pavements. Special balloon tires and inner tubes as furnished for the new Ford drop-center rim were shown. An instructive and well illustrated catalog showing tire equipment for all Ford and Lincoln cars was distributed. For those not familiar with tire building operations this booklet contained much of interest.

### RUBBER DIVISION MEETING

The meeting of the Rubber Division of the American Chemical Society, to be held at Akron, Ohio, February 22 and 23, 1926, will be of unusual importance. All the sessions, as well as the banquet and entertainment, will be held in the Firestone Club House where registration will begin at 8:30 a. m., February 22. The registration fee includes ticket to the banquet and will be about \$3.00.

The first day will be devoted to the program of papers followed in the evening by the banquet and entertainment. The latter will include a characteristic talk by Ted Robinson, columnist of the *Cleveland Plain Dealer*.

The Goodrich, Goodyear, Firestone and Miller companies will keep open house and excursions to each plant have been arranged for the morning of February 23. Other Akron plants which may be visited include The Philadelphia Rubber Works Co.; Quaker Oats Co.; Maurice A. Knight, chemical stone ware; Colonial Salt Co.; National Sulphur Refining Co.; and Anaconda Zinc Co.

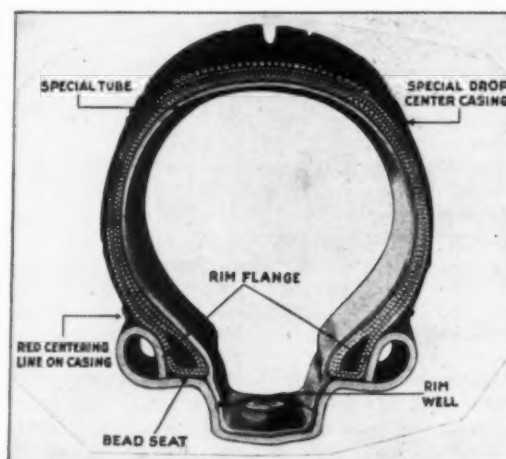
FRANCE CONTINUES TO IMPORT LARGE AMOUNTS OF AMERICAN-MADE rubber thread, the values of such importations showing a steady increase during the months from June to October, inclusive. The total value for these five months, at \$263,989, compares favorably with the corresponding figure for the entire year 1922 of \$338,339.

### Drop-Center Tire Rims

Although drop-center rims for tires are not strictly new their probable introduction as standard equipment on the most popular make of cars in the near future gives them special interest at this time. As developed and applied by the Ford Motor Co., Detroit, Michigan, the drop center rim takes the form pictured here in cross section which shows the combination of rim, tube and tire.

The rim is applied to a wire spoke wheel and serves at once as wheel rim or felloe and receptacle or holder for the tire and tube. It thus displaces the demountable rim, flange ring, bolts, and flap. The bottom of the well is lined with a heavy layer of frictioned duck cemented in place over the heads of the wheel spokes to obviate possible injury to the inner tube.

The usual tubes and casings are not adapted to drop-center rims because the sectional area of the tire is larger since the casing stands higher to give the correct full diameter to the complete tired wheel. The casing is also special in that it bears a narrow groove



Firestone Tire & Rubber Co.

Cross Section of Drop-Center Casing, Tube and Rim

molded around it on both sides near its base. These grooves are painted red on the finished casing and serve as guides for correctly adjusting the tire to the rim. The inner tube is made heavier than the ordinary tube and of smaller cross section. The latter feature is a safeguard against the tube becoming pinched when inserted partly inflated into the casing.

The operation of mounting the tube and casing on a drop-center rim is easily and conveniently done. The tube is inserted in the casing and inflated sufficiently to fit the casing loosely. The tire is then placed on the rim, inserting the valve stem in the hole on the top of the rim. Next push up on the valve stem and press the sides of the tire together, forcing both beads into the bottom of the rim well. This operation is continued around the tire until the top half of the tire is resting in the well, then the bottom half will drop into position. When on the rim the bottom of the tire is raised to allow the beads to clear the well of the rim and fit themselves against the rim flange around the complete circumference on both sides of the tire. The rim nut is then applied and tightened. Before inflating the tire the casing is carefully adjusted to position with the red line showing an even distance from the rim all around on both sides.

The tire is released from the rim by letting sufficient air out of the tube to allow the beads in the top half to be forced into the well of the rim. Then the rim nut on the valve stem is removed, the sides of the tire pressed together to force the beads into the bottom of the well. In this position the bottom half of the tire can be pulled over the rim flange and released from the rim.

# What the Rubber Chemists Are Doing

## Rate of Combination of Sulphur with Rubber in Hard Rubber<sup>1</sup>

By W. E. Glancy, D. D. Wright, and K. H. Oon<sup>2</sup>

THE information presented here is compiled with the view of correlating the changes in composition and in physical properties which take place during the vulcanization of hard rubber.

During the past ten years or more, investigation into the mechanism of vulcanization has been largely centered about the function of organic accelerators in hastening vulcanization. The characteristic curing curves, the most desirable temperatures of vulcanization, and the action of inorganic activators for various organic accelerators have been studied and theories evolved to explain the facts. In formulating any comprehensive theory the hard rubber field ought not to be neglected, especially since the one accepted compound of rubber and sulphur exists in this field.

Weber<sup>3</sup> points out that the end product of vulcanization is polyprene disulphide,  $C_{10}H_{16}S_2$ . Other investigators have confirmed this statement. Hubner<sup>4</sup> examined a sample of ebonite, which, however, showed less than 4 per cent combined sulphur, and reported that he had found only the monosulphide of rubber. Spence and Young<sup>5</sup> have also shown that the rate of combination of sulphur with rubber is constant for a given temperature until 32 per cent of sulphur (estimated on the mix) is combined with the rubber. The authors' previous work shows that the tensile strength increases slowly during the first part of the vulcanization, then very rapidly, and finally at a much slower rate continues to a maximum. They have now determined approximately the amount

for 24 hours or more, were vulcanized in a mold in a hydraulic press, the temperature of the press being maintained at 170 degrees C. The test specimens were molded to form, so as to eliminate cutting, and the time of cure varied from 10 minutes in some cases to a maximum of 120 minutes.

TABLE I

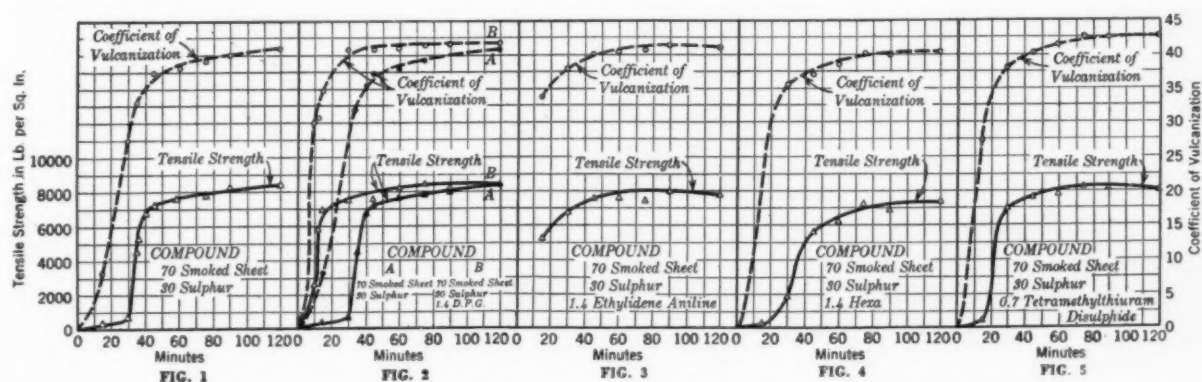
Number of mix	1	2	3	4	5
First quality kiln-dried smoked sheet	70	70	70	70	70
Sulphur	30	30	30	30	30
Diphenylguanidine		1.4			
Ethylidene aniline			1.4		
Hexamethylenetetramine				1.4	
Tetramethyl thiuramdisulphide					0.7

TABLE II  
COEFFICIENT OF VULCANIZATION

Cure, min.	10	12	15	30	35	40	45	60	75	90	120
Stock 1			6.57	27.57	32.89	34.59	37.42	38.10	39.17	39.93	40.86
2	29.93	30.23	34.87	40.37			40.93	41.06	41.34	41.71	41.72
3			33.98	37.90			39.98	40.32	40.60	41.21	40.96
4			22.22	35.75			37.24	38.77	39.60	40.07	40.43
5			27.44	38.18			39.93	41.17	42.60	42.27	42.44

### Results

The results are shown in Table II and also graphically in Figures 1 to 5. One very interesting fact shown in Figure 1 should be pointed out. Although sulphur entered into combination with rubber to a coefficient of vulcanization of 28.14, there was no corresponding increase in tensile strength and the specimen



of sulphur necessary to make a compound hard and the effect of several of the more common organic accelerators upon the coefficient of vulcanization and the tensile strength.

### Experimental

Five mixings were made, as shown in Table I. These mixings were made on a small laboratory mill and the usual precautions with regard to mastication, heat on the rolls, etc., were taken to insure uniformity of treatment. The mixed stocks, after aging

remained flexible. As it seemed possible that dilution from the uncombined sulphur might retard the increase in tensile strength, several stocks were mixed which contained only smoked sheets and sulphur and which when fully vulcanized should have coefficients of vulcanization of 17.6, 21.2, 23.5, and 25.0. The first two of the above-mentioned stocks were still soft when the vulcanization was continued for 6 hours at 170 degrees C. The stock which contained the largest amount of sulphur was noticeably hard in 60 minutes. The stock which contained 23.5 per cent sulphur, estimated on the rubber, was flexible when vulcanized for 3 hours. The evidence is, then, that the hard variety of vulcanized rubber exists only after a coefficient of vulcanization of approximately 23.5 has been reached. This amount of combined sulphur is the amount necessary that one sulphur atom be joined to one  $C_{10}H_{16}$  group. Apparently, no polyprene disulphide,  $C_{10}H_{16}S_2$ , is formed

<sup>1</sup> Presented before the Division of Rubber Chemistry at the 69th Meeting of the American Chemical Society, Baltimore, Md., April 6 to 10, 1925. From *Industrial and Engineering Chemistry*, January, 1926, 73-75.

<sup>2</sup> Hood Rubber Co., Watertown, Massachusetts.

<sup>3</sup> *The Chemistry of India Rubber*, p. 91.

<sup>4</sup> *Gummi-Zeitung*, 24, 627 (1910).

<sup>5</sup> *Kolloid-Zeitung*, 13, 265 (1913).



until each  $C_{10}H_{16}$  group has received one atom of sulphur.

Figure 2 shows the effect of 2 per cent diphenylguanidine on the base compound of 70 rubber-30 sulphur. This accelerator, which has wide use in soft rubber goods, is evidently quite efficient in hard rubber. Various accelerators seem to give properties to soft rubber goods which cannot be obtained in unaccelerated stocks. Diphenylguanidine in hard rubber, however, seems to be purely a sulphur carrier, the rate of the reaction being greatly speeded, but approximately the same maximum tensile strength is obtained as though no accelerator had been used. Zinc oxide is not necessary to activate the accelerator.

Figure 3 shows the curing curve for ethylidene aniline. It reacts much like diphenylguanidine, but is seemingly a little less abrupt in its action.

Figure 4 shows the effect of 2 per cent hexamethylenetetramine. Without an inorganic activator this material aids the combination of rubber and sulphur in the early stages of vulcanization, but is not nearly so efficient as diphenylguanidine or ethylidene aniline. In the later stages of vulcanization it seems actually to prevent the usual increase in tensile strength.

Figure 5 gives the curing curves for tetramethyl thiuram-disulphide. Only 1 per cent (based on the rubber) is used. Evidently this powerful accelerator, which is ordinarily used at comparatively low temperatures, is very active in hard rubber at high temperatures. Its use would probably be limited because of its cost.

In considering the action of these accelerators, a statement can be made which would apply to all that have been included in this investigation—the organic materials are “regulators” of the rate of combination of sulphur with rubber.

#### Specific Gravity of Crude Rubber

It is possible to estimate the specific gravity of crude rubber as vulcanized in soft rubber goods by determining the specific gravity of the vulcanized stock and making the necessary allowances for the other materials present. In several instances the specific gravity of vulcanized rubber was found to be close to 0.935. If, however, this same procedure is used for the determination of the apparent specific gravity of rubber in vulcanized hard rubber, this apparent specific gravity will be nearer 0.998 for a fully vulcanized hard rubber, assuming the specific gravity of sulphur to be 2.0. It would appear, then, that in the combination of rubber with large quantities of sulphur there is a contraction in volume over that which might be expected if the rubber and sulphur exist in the same condition as in the low-sulphur vulcanized mixes.

### The Spraying of Rubber Latex with Protective Colloids, Particularly Glue

By W. Cecil Davey

In recent years the use of latex instead of ordinary rubber has become increasingly frequent and important.<sup>1</sup> The isolation of the rubber from the latex by spraying has been carried out on a large scale particularly in America and in plantations of American companies. The method has also been used in Europe, employing the Krause spray drier, in which a stream of latex is delivered on to a disk moving at high speed and surrounded by hot air. The latex is flung off from the disk in exceedingly small particles and dries instantaneously.

Although it is by no means new,<sup>2</sup> latex compounding has received commercial application in recent years. The work of Loomis and Stump gives an account of the phenomena in this connection,<sup>3</sup> and numerous patents indicate advances towards satisfactory working practise. The actual method of adding the fillers is of supreme importance, and it may be said with confidence that by the use of

anti-coagulants the problem has been practically solved. Apart from certain mechanical difficulties attendant on the presence of suspended fillers, compounding latex can be sprayed in a similar way to pure latex. Naturally the rubber obtained is harder than ordinary sprayed rubber, and the question of molding this in the unmasticated state presents difficulties. Russell and Broomfield claim to have solved this problem by pre-heating the latex with a hydrocarbon under pressure, the resulting coagulated mass then being akin to masticated stock.

The molding of unmasticated stock can also be greatly facilitated by using softening materials, e.g., fatty acids, resins, and oils, in the mix, and with zinc oxide present, such substances in small quantity frequently improve the tensile properties of the cured rubber.

Alternatively the latex might be sprayed to yield a powdery product instead of the usual spongy rubber. Such a condition would greatly simplify the molding operation. Protective colloids have received a good deal of attention in latex chemistry, particularly as a means of preventing coagulation when certain fillers are added.

Under suitable conditions the sprayed products obtained with protective colloids can be reconverted into a latex on addition of water. This fact suggests that the protective colloid has formed an adsorbed layer around the particles and prevented their aggregation.

On theoretical grounds if a powder can be obtained at all in this way, the result should be attainable with quite a small amount of protective colloid. A unimolecular adsorbed layer should be just as effective as an excess; nevertheless, apparently an appreciable quantity is required.

From the point of view of the rubber industry glue is the most suitable colloid, as it has already been extensively used as a filling material for rubber. Therefore, most of the experiments were made with it and numerous mixes prepared by spraying latex containing added fillers and the necessary vulcanizing and accelerating materials as required, together with enough glue to produce a powder.

Glue is an ideal compounding ingredient to mix with latex, as it readily gives a colloidal solution, and this mixes with latex without difficulty. Such mechanical problems as the settling out of fine powders in suspension do not have to be faced when dealing with this reinforcing agent. The joint spraying of mixtures of glue solutions and latex to a fine powder thus leads to a simple method of incorporating glue in rubber mixings. It was found convenient to mix the glue and the rubber (based on the solid content of the latex) in definite proportions, 1 part of glue to 3 parts of rubber being suitable. The toughening effect of glue on rubber has been known for a long time and verified more recently. It also possesses the important property of improving the “wetting” of fine powders by rubber. A few per cent induce a smoother mixing and result in improved tensile properties. Like other fine fillers, glue retards the swelling of rubber by solvents.

In its use a handicap has arisen from the difficulty of obtaining good glue mixes in a simple manner. Thus a number of patent methods have been introduced for incorporating it, but these generally involve the use of additional substances, e.g., pine tar, benzene. Simpler methods of incorporation are (1) direct mixing of air-dried glue into the rubber at fairly high temperatures, (2) to mix glue previously watersoftened into masticated rubber. The former method was found very difficult in milling to break up aggregated particles which formed, these being evident even after considerable working. Thus although stiffening of the rubber took place the breaking strains were poor. When softened glue is added to masticated rubber on the rolls the chief trouble is the tendency for a little glue to dry out on the rolls, but this can be avoided with practise.

When glue powder was prepared from mixtures of glue and latex in liquid form the incorporation was very good. The joint spraying method results throughout in better tensile properties than

<sup>1</sup> “Industrial Possibilities of Rubber Latex.” *The India Rubber World*, October 1, 1923, 13-14.

<sup>2</sup> Hancock, English patent No. 5970 (1830).

<sup>3</sup> “Addition of Compounding Ingredients to Rubber Latex.” *The India Rubber World*, September 1, 1923, 763-765.

the other method. In each case the glue straightens out the stress-strain curve and produces a marked increase of "slope." When using glue it is best to have a little zinc oxide present. Mixes prepared from water-softened glue should be kept only a short time after mixing as they show a definite tendency to weaken during storage.

The results show that stored rubber glue is not as tough as that freshly cured although the breaks are well maintained.

The diminution in the coefficient of vulcanization suggests the formation of a retarding substance during the storage, and a little longer cure helps to improve a stored mix. It is suggested that traces of water in the mix brings about a hydrolysis of the glue protein. Since ordinary glue contains quite a considerable quantity of water it appears as if something in the rubber accelerates the change. It seems possible that the fairly rapid change after the complete mix has been made may be due to traces of acid in the sulphur or gradually formed from it by oxidation while in the mix. Some of these points should be capable of verification.

## Chemical Patents

### The United States

**INSULATING COVERING.** A plastic composition for lagging refrigerating piping, comprising granulated cork, loose fiber and rubber dissolved in a solvent. Junius H. Stone, Port Washington, New York. United States patent No. 1,564,797.

**VULCANIZATION PROCESS AND PRODUCT.** The process comprises combining a vulcanizing agent with rubber and a thioaldehyde and vulcanizing the rubber.—Sidney M. Cadwell, Leonia, New Jersey, assignor to the Naugatuck Chemical Co., Naugatuck, Connecticut. United States patent No. 1,564,824.

**VULCANIZATION PROCESS AND PRODUCTS.** The process consists in combining a vulcanizing agent with rubber and an arylated thioaldehyde, and vulcanizing the rubber.—Sidney M. Cadwell, Leonia, New Jersey, assignor to the Naugatuck Chemical Co., Naugatuck, Connecticut. United States patent No. 1,564,825.

**RUBBER CEMENT.** A composition of caoutchouc latex and furfural with a suitable rubber stabilizer.—Benjamin P. Taylor, Wyoming, assignor to Taylorall, Incorporated, Cincinnati, both in Ohio. United States patent No. 1,566,566.

**VULCANIZATION PROCESS.** The process consists in using zinc hydroxide for the combination of sulphur with the caoutchouc substance.—Hermann Oehme, Kalk, near Cologne, assignor to Chemische Fabrik Kalk, Cologne, both in Germany. United States patent No. 1,565,812.

**RUBBER COMPOUND.** In combination, rubber, rosin oil, sulphur, ammonium bicarbonate, lime, ethylidene aniline and gas black.—A. L. Freeland and William G. Goodwin, assignors to The Rubber Development Co., all of Dayton, Ohio. United States patent No. 1,565,995.

**VULCANIZATION PROCESS.** A relatively small quantity of fibers is mixed in a rubber solvent, a similar quantity of rubber is dissolved in the solvent and precipitated on the fibers. Sulphur dioxide and hydrogen sulphide are introduced in the liquid and the rubberized fibers are so strained from the liquid as to effect a mat formation, and are then dried.—James M. Gillet, Milwaukee, Wisconsin, assignor to The Goodyear Tire & Rubber Co., Akron, Ohio. United States patent No. 1,566,247.

**MIXING MATERIALS WITH RUBBER LATEX.** A method of mixing rubber with other materials which consists in forming a water emulsion of liquid material non-miscible with water, dissolving other materials in an organic solvent and forming an emulsion or water suspension of finely divided solid particles. These emulsions and suspensions are mixed with rubber latex and the mixture deprived of its water content.—Ernest Hopkinson, New York, N. Y. United States patent No. 1,567,506.

**RUBBER AND PAPER PRODUCTS.** In the process of manufacturing rubber and paper and similar combinations the steps of combining with pulp a quantity of rubber latex; agglomerating the rubber and subjecting the mass to mixing and then coagulating the rubber.—Ernest Hopkinson, New York, and Reed P. Rose, Jackson Heights, assignor to General Rubber Co., New York, all in New York. United States patent No. 1,567,646.

### The Dominion of Canada

**PLASTIC COMPOSITION.** Electric insulating composition comprising a matrix of rubber and an insulating filling material treated with a gas which is soluble in rubber.—The International Western Electric Co., New York, N. Y., assignee of Robert R. Williams, Roselle, New Jersey, both in U. S. A. Canadian patent No. 256,162.

**VULCANIZATION OF CAOUTCHOUC.** A method comprising mixing in rubber zinc oxide and an oxygen-free organic disulphide. Treating the mix with a material adapted to react with the disulphide and zinc oxide to produce an acid zinc salt, and vulcanizing the product.—The Goodyear Tire & Rubber Co., Akron, Ohio, assignee of The B. F. Goodrich Co., New York, N. Y., assignee of Clayton W. Bedford, Akron, Ohio, all in U. S. A. Canadian patent No. 256,220.

**MATERIAL DERIVED FROM RUBBER.** The method of treating rubber which comprises working into the undissolved rubber a reagent adapted to convert it into an isomer having less chemical unsaturation than the rubber. Then heating the material under conditions causing it to be changed to a thermoplastic product and making it uniform by heat and mastication.—The B. F. Goodrich Co., New York, N. Y., assignee of Harry L. Fisher, Akron, Ohio, both in U. S. A. Canadian patent No. 256,567.

**ADHESIVE.** A material having superior surface adhesion to metals, wood, etc., consisting of a tough balata-like artificial isomer of rubber having less chemical unsaturation than rubber. To this is added relatively small proportions of an organic flux or softener and of a nitrogenous organic age-resister.—The B. F. Goodrich Co., New York, N. Y., assignee of William C. Geer, Akron, Ohio, both in U. S. A. Canadian patent No. 256,797.

### The United Kingdom

**PLASTIC COMPOSITIONS.** Fibrous plastic compositions for hot molding for floor covering and other purposes. It consists of a combination of balata, gutta percha, cable strippings or waste rubber in solvents and the admixture of a variety of other ground materials. After mixing the composition is dried and pulverized ready for molding.—E. Wood, 5 Maiden Crescent, Chalk Farm, London. British patent No. 240,939.

**COATING COMPOSITIONS.** Rubber is dissolved by heating in linseed oil and the solid or semi-solid product is thinned with turpentine. Oxide colors may be added, and the mixture applied as a surface proofing.—H. L. Hewitt, 52 Coleman street, London. British patent No. 240,961.

**COLORING RUBBER.** Acid, basic, vat or sulphur dyes are added to rubber in solution and the dye-stuff is rendered insoluble.—Metzeler & Co., Munich, Germany. British patent No. 241,214.

**COMPOUND FOR ELECTRIC COUPLINGS.** A plastic jointing composition for electric cables and conductors entering junction boxes, comprises raw rubber or a rubber compound and metallic wool or fine metallic shavings. Suitable compounds in parts by weight, are 15 of raw rubber and 85 of lead wool uniformly mixed into a plastic mass. An appropriate rubber compound comprises raw rubber 50, hard bitumen 7½, gutta percha 17½, vegetable pitch 10, paraffin or other wax 2½, and heavy petroleum or other oil 7¼.—G. H. Scholes, Meadow Cottage, Dean Row, Wilmslow, and F. J. Pearce, Rosslyn, Dane Road, Sale, and Scholes & Co., Ltd., Blantyre street, Chester Road, Manchester. British patent No. 241,280.

**ETCHING RUBBER.** Sheet rubber to be etched is secured by vulcanization on to a waxed sheet or is reinforced with threads. The vulcanization is effected by action of violet rays or chloride of sulphur. The sheet is prepared with an etch-resist and the design to be etched is drawn upon it. The sheet is etched and then washed with acetone or alcoholic soda.—Société D'Exploitation Des Procédés D'Impression Sardou, 4 Rue St. Cassien, Marseilles, France. British patent No. 241,542.

**TREATING PHOTOGRAPHIC PAPERS.** Papers and the like are coated with a mixture containing rubber latex and baryta, colored. This coating isolates the photographic emulsion from the chemical action of the impurities in the paper, prevents cracking and renders the paper more resistant to water and less liable to distortion and damage.—Kodak, Ltd., Kodak House, Kingway, London, and W. G. Bent, 13 Lyon Road, Harrow, Middlesex. British patent No. 241,769.

**VULCANIZATION ACCELERATORS.** The reaction product of a guanine, preferably di-substituted, and a 1-mercapto-benzothiazole is used as a vulcanization accelerator.—Dovan Chemical Co., 30 Church street, New York, N. Y., assignees of M. L. Weiss, 347 Chadwick avenue, Newark, New Jersey, both in U. S. A. British patent No. 241,838.

**RUBBER AND CELLULOSE DERIVATIVES.\*** Esters of tetra-hydro-naphthol are used as non-volatile solvents or softening media in the production of plastic masses, varnishes and solutions for dipping, impregnating and adhesive purposes from rubber, gutta percha, balata, or the like, or from cellulose derivatives. This invention enables rubber to be added to nitro-cellulose in the manufacture of artificial filaments for spinning.—R. Garke, and E. Meyer, Troisdorf, and W. Claasen, Cologne, both in Germany. British patent No. 241,858.

**PROTECTING METAL SURFACES.** Metal surfaces are protected against acids by the application of a first coating of rubber, resin and a pigment that resists acid, and a second coating comprising a cellulose ester, varnish or paint.—A. C. Holzappel, 8 Lyndhurst Gardens, Hampstead, London. British patent No. 241,970.

**RUBBER COMPOSITIONS.** Plastic compositions containing rubber, bitumen and slate powder with or without coloring materials are mixed, molded and vulcanized to the desired degree of hardness.—C. Fickstone, Nursery House, Chapelfield, Radcliffe, Lancashire. British patent No. 241,993.

**RUBBER PRESERVATIVE.** Rubber articles are preserved by coating them with a composition consisting of soap, and an actinic light screening coloring matter, with or without the addition of alkali, an inert filler and a rubber solvent to assist adhesion.—T. W. K. Clarke, Lindley, Farnborough Park, Hampshire. British patent No. 242,096.

**COLORING PLASTIC MATERIALS.\*** Rubber and other plastic materials other than those from cellulose derivatives, are colored by mechanically incorporating into them coloring matters practically insoluble in the usual solvents. The mixing is continued until the coloring material is nearly colloiddally dispersed and does not settle out when in solution.—Badische Anilin & Soda Fabrik, Ludwigshafen, Germany. British patent No. 242,274.

\*Not yet accepted.

### AGERITE ANTI-OXIDANT

The chief agency in the destruction or perishing of rubber goods is oxidation of the rubber content. This can be restrained and the life of the rubber article be greatly extended by the addition of "Age-Rite," an anti-oxidant, to the mixing. This is an organic preparation, and generally one per cent on the weight of rubber is all that is needed to produce the desired results. When used in normal proportions it has very little effect on the curing properties of the stock nor will it interfere with the organic accelerator present. It is not poisonous to workmen and serves as a plasticizer since its low melting point allows it to blend perfectly with the rubber to which it imparts a degree of softness and tack which improves the working properties of stock. Age-Rite is protected by United States patent No. 1,515,642.

## Aluminum Flake a Rubber Reenforcing Pigment

THE introduction of aluminum flake to the rubber manufacturing industry, early in the present century, is believed to mark the first appearance of a hard clay natural product as an effective and inexpensive reenforcing pigment for rubber manufacturing. An isolated deposit of this material was discovered by chance, about 1895, by Frank Reifsneider on his ranch in Missouri. The deposit is accounted unique as the material is not known to occur elsewhere. In its crude form the rock resembles white flint. It is amorphous in structure and shows a marked conchoidal fracture. That is to say it forms flake-like chips when broken or pulverized. This characteristic, together with the fact that chemically it consists of a large percentage of aluminum oxide, served to suggest for it the trade name, "Aluminum Flake," which is protected by registration in the United States patent office.

Considerable difficulty was experienced in establishing the value of the new material as a rubber compounding ingredient because then plant laboratories were few and facilities for proper testing were equally limited. Thus it was not until 1903, after exhaustive trials and much patient missionary work, that progress began to be apparent. From that time onward the inherent merits of the material and the growth of the rubber industry resulted in its steadily increased use.

One of the most unique characteristics of aluminum flake is its great purity in its native state. Chemically it is nearly pure hydrated aluminum silicate, that is, aluminum oxide and silicon dioxide in combination with water. The other substances present average less than 1 per cent. This amount is further lowered during the refining process. Its specific gravity is about 2.56. Its average analysis is as follows:

Aluminum oxide .....	42.60
Silica, combined .....	44.60
Loss on ignition .....	13.20
Iron, calcium and magnesium.....	traces

This material is designated as hard clay and possesses certain desirable properties which separate it from so-called soft clays, the principal one being its ability to produce a very resilient stock and at the same time give an extreme resistance to abrasion and to other deteriorating agencies. Until recently the trend in compounding has been to secure high tensile strength, often at the expense of other important properties. This tendency was due to the necessity of having tire tread stocks which would offer high resistance to abrasion and other destructive road conditions. The popularity of low pressure or balloon tires, however, has emphasized the necessity of softer resilient stocks with high resistance to abrasion and weather conditions as well. Aluminum flake is one of the most desirable of the cheaper reenforcing agents for this purpose, and produces a stock which is ideal in these respects. Its cheapness, also, is a point which can well stand emphasis, its cost being only about a fortieth of that of 80 cent crude rubber on a volume basis. It has the added advantage that it can be used to replace the higher reenforcing agents, while maintaining the required qualities of the stocks.

Aluminum flake possesses some inherent property, with respect to rubber, which enables it to enter the compound with much less milling than other reenforcing agents of the same class, producing a stock easy to handle, and possessing the physical properties mentioned. It is now generally realized that there is no relation between tensile strength and abrasive resistance. What is required in slow wearing stocks is not mere tensile strength but rather reenforcing effect at the lower elongations.

Laboratory tests indicate that compounds of practically equal tensile strengths are obtained with a given tread stock where the same volume percentage of zinc oxide, in one case, and aluminum

flake, in the other, were used. These experiments indicate, also, that aluminum flake gives the flatter curing curve and exhibits the least loss of tensile due to over-curing. As an instance the following formula may be cited:

Smoked sheet.....	100	Sulphur .....	4
D. P. G. ....	1	Zinc oxide.....	5
Aluminum flake.....	52		

Cures of this stock were made at 287 degrees F. for periods of 20, 30, 45, 60 and 90 minutes. The physical constants given by the respective samples were as follows:

TIME OF CURE Minutes	MODULUS AT 400% ELONGATION Pounds	ELONGATION AT BREAK Per Cent	TENSILE STRENGTH Pounds
20 .....	750	840	2755
30 .....	785	720	3003
45 .....	750	690	2935
60 .....	1017	670	2957
90 .....	1038	663	2523

It will be noted that the maximum tensile strength was obtained in the 30 minute cure, but that the 45 and 60 minute cures were practically identical and show no great reduction in tensile strength. Even the 90 minute period shows only a slight reduction. The same results are noted if one considers the elongation.

A zinc compound prepared on the same formula will show far greater variations and in fact, as a general proposition, will show a maximum tensile at about the 30 minute period, but thereafter will show a much more rapid decline in tensile strength.

With respect to aging, tests show that stocks containing aluminum flake age at least as well and, in many cases, very much better than zinc stocks.

### SYNTHETIC RUBBER FROM PETROLEUM

Much interest was manifested by newspapers in the address made at Kansas City, Missouri, by E. P. Stevenson, Cambridge, Massachusetts, before the American Association for the Advancement of Science on the possibilities of making synthetic rubber from certain hydrocarbons.

Mr. Stevenson pointed out that it costs the petroleum industry \$9,000,000 a year to get rid of chemicals which might be producing synthetic rubber worth \$162,000,000. "Synthetic rubber can be made from certain classes of hydro-carbons known as diolefines through a process known as polymerization. In order to remove these bodies, produced in every refinery in the United States, the petroleum industry suffers a loss close to \$9,000,000 and destroys diolefines equivalent to 180,000,000 pounds of rubber."

Mr. Stevenson is a graduate of Wesleyan, 1916, and a member of Phi Beta Kappa. Later he studied chemistry at the Massachusetts Institute of Technology and taught the subject there. He now holds the position of vice-president of Arthur D. Little, Inc., consulting and research chemists and engineers. Cambridge, Massachusetts.

### AERO BRAND D. O. T. G.

Di-ortho-tolyl-guanidine, or D.O.T.G. as it is called in the chemical trade, has special advantages as an accelerator of vulcanization. It is extremely pure in quality due to the control of basic raw materials and careful manufacturing supervision. The Aero guanidine accelerators are only two of a long list of chemicals produced by the same company for use in a wide variety of industries.

ARGENTINA'S IMPORTS FROM THE UNITED STATES OF CANVAS RUBBER-soled shoes reached during September the high figure of 160,299 pairs, value \$90,573, the August estimate being 78,973 pairs, value \$39,634. October imports included 110,008 pairs of canvas shoes, value \$64,268.

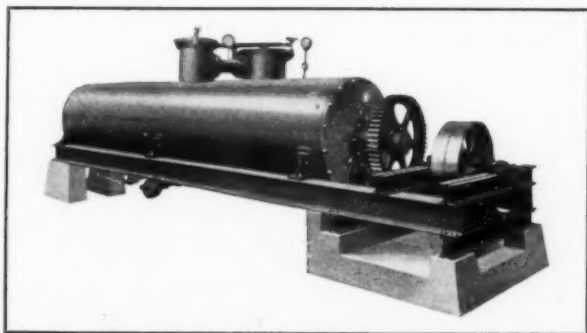


## New Machines and Appliances

### Rotary Vacuum Drier

**T**HE abnormally high price of crude rubber has enormously stimulated the production of reclaimed rubber, the demand for which can be met only by the employment of the most efficient reclaiming machinery and driers.

The illustration represents a rotary vacuum drier that is particularly efficient in drying moist, ground reclaim previous to mill refining and batching. The apparatus consists of a stationary,



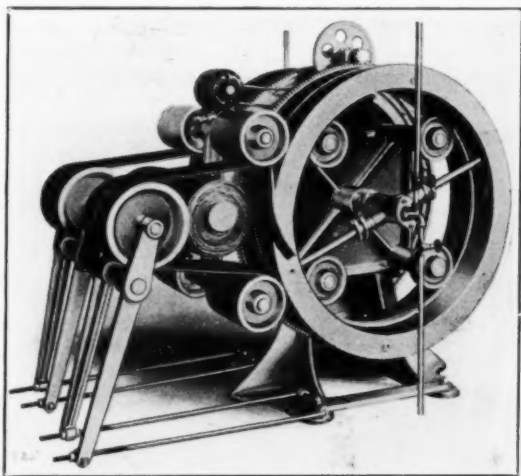
Stokes Rotary Vacuum Drier

steam-jacketed cylinder in which revolves a steam-heated tube carrying spiral mixing blades.

The material is fed into the machine through the manhole in the top, provided with a loose cover held in place by atmospheric pressure. The charge dries rapidly and uniformly in the vacuum at a mild heat. The material is automatically discharged through a quick opening outlet in the bottom of the machine.—F. J. Stokes Machine Co., Philadelphia, Pennsylvania.

### Tire Flap Curing Machine

There is a distinct tendency in mass production of rubber goods to accomplish results by the adoption of means and methods for



Miller Continuous Flap Vulcanizer

continuous production. The illustration represents a machine which accomplishes this result in connection with the vulcaniza-

tion of tire flaps. The vulcanizer consists of two large steam-jacketed revolving drums. Each drum has two flap shaped channels where pressure belts run. The drums are rotated by a small motor through a system of worm gears and steam is supplied to the vulcanizer by means of special stuffing boxes. The raw flaps are fed under the four pressure belts which hold them under heavy pressure in close contact with the steam heated drums. The speed of rotation of the drums is adjusted to suit the cure of the stock. The feed of raw flaps is continuous and the cured flaps leave the drums at the same rate and are rolled up automatically. A stock curing in 10 minutes will make 240 feet per hour and one curing in 5 minutes double that length.—Charles E. Miller, Anderson, Indiana.

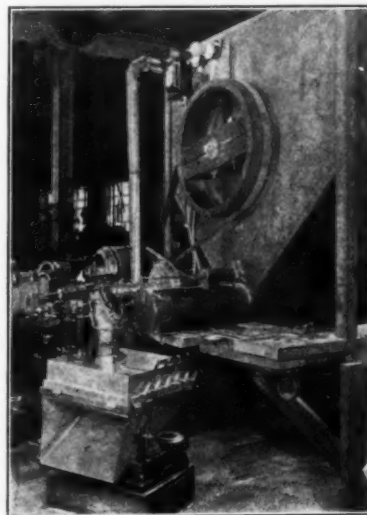
### Automatic Compound Weighing Machine

An automatic electrically controlled machine for weighing rubber compounding ingredient mixing is represented in the illustration. Compounding material to be weighed is received in a hopper from an overhead storage bin. Below and communicating with this hopper is a screw conveyor which is made

to operate by electrically throwing its clutch connection with a continuously moving shaft. At the same time a gate at the end of the worm conveyor opens and the screw advances the material which falls into a container resting on a platform scale. When sufficient material has been discharged by the conveyor into the weighing container to counterbalance the weight setting of the scale, its beam tips and makes an electric contact, which closes the end gate of the conveyor and opens a shutter in an air-suction pipe. This permits the removal by suction of any excess weight of material from the container on the scale until the weighing beam descends to an even balance when the contact is broken and the suction cut off by the shutter in the pipe.

The weighed material is dumped by opening a shutter in the bottom of the chute-container allowing it to discharge into a movable receptacle.

The flying about of light weight powders is prevented by their discharge through a dome-like sheet metal cover suspended over the movable receptacle and connected with a suction fan which draws away all dust and returns it to the supply hopper. In the case of material liable to cake, a vibrator is used to cause it to descend into the weighing chute. Several machines can be installed in a line and connected to one control and to a single arm dump. The moving receptacle travels, either by hand or power, in front of the machines to receive the different materials.—C. E. Gordon, 445 Concord avenue, Detroit, Michigan.



Gordon Compound Scale

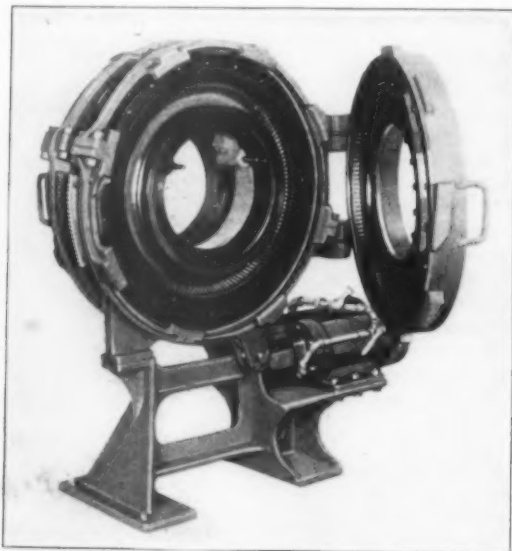
### Improved Watch Case Vulcanizer

The acknowledged efficiency of the watch case tire vulcanizer is shown by its popularity with manufacturers and operators alike. A new and improved vulcanizer of this type is here pictured.

Each unit has two compartments and the mold halves of each when closed are securely locked at 8 points by a revolving ring which is rotated by air or hydraulic pressure from cylinders attached at the base of the vulcanizer. As the ring is moved to the unlocking position a mold breaking or parting device automatically forces the hinged half away from the tire. This dispenses entirely with the tiresome hand work of parting the molds with bars and saves two-thirds of the curing labor.

With this new equipment a single operator can perform every step needed for the removal of a cured tire and insertion of an uncured one in 1½ minutes. Based on a curing time of 60 minutes an operator can thus handle a battery of 20 units with all the heavy work accomplished by the machines.

The mold shells are detachable from the vulcanizer, which permits tires of different sizes or brands being cured in the same unit. A device for hand operating the locking ring in emergencies is provided on each vulcanizer when other pressure is not avail-



Standard Improved Tire Vulcanizer

able. This vulcanizing system can be adapted to any size pneumatic tire up to and including 40 by 8 inches.—Akron Standard Mold Co., Akron, Ohio.

### Crodon—The New Chrome Alloy Plate

Crodon is an alloy composed almost wholly of metallic chromium. Applied electro-chemically as a plate over other metals crodon has the following properties: hardness greater than the hardest steel; proof against rust and corrosion indefinitely; acid proof against practically every acid; withstands heat up to 2500 degrees F. A crodon plate will not chip, crack or peel nor will it strip by the action of the usual buffing compound. For different uses Crodon can be applied in a variety of finishes ranging from dull satin to a bright high luster polish.

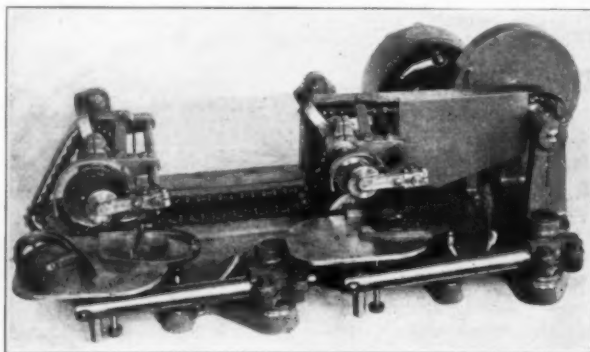
For rubber working Crodon is well adapted for curving mandrels, forms and molds because of its hard, non-corrosive nature which preserves the high finish so desirable in rubber manufacturing equipment subjected to the heat, sulphur and steam used in vul-

canization of rubber articles.—Chemical Treatment Co., 26 Broadway, New York City, N. Y.

### Duplex Rubber Heel Trimmer

Volume production of rubber heels requires balance of equipment to insure uninterrupted output of trimmed goods. The final operation of heel trimming necessitates a rugged machine capable of removing the mold rind smoothly and rapidly following the outline of the goods.

The machine here pictured was specially designed for this work and after several years of constant factory service and development has recently been released for general sale. It is a duplex semi-automatic mechanism and motor driven. The power is transmitted to each part of the machine by means of an endless chain. The feature of the machine is that it trims the overflow from top and bottom of the heel. The latter is held in place



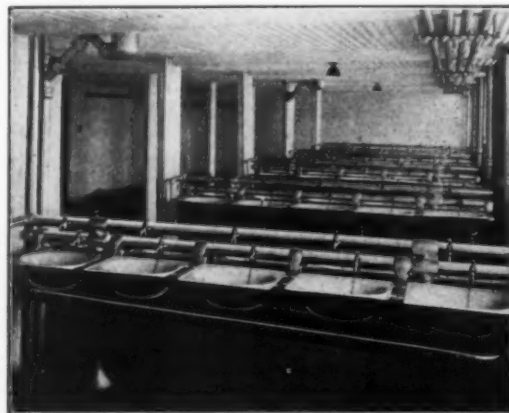
Dryden-Utility Heel Trimmer

by a standard heel form with three pins engaging the nail holes of the heel. In this way there is no cutting into the heels nor any fins omitted in trimming as the heel is rotated in engagement with the circular shears.

This machine practically eliminates any teaching period as a girl can operate it to capacity after brief practice. By utilizing both sides of the machine large production is obtained.—Utility Manufacturing Co., Cudahy, Wisconsin.

### Sanitary Factory Washbowls

Sanitary washing facilities for the operatives is requisite in every well equipped plant where numerous people are employed.



Economy Type Sanitary Washbowls

One of the best and most economical systems as to cost of installation and maintenance is that here pictured. The bowls can be arranged in double or single battery. They are built in two types. In that known as the Victory type, every bowl has an individual trap and vent. The bowls are of vitrified porcelain enamel and hold two gallons of water. They have common water supply, common vent and common waste and embody the most modern type of plumbing construction.

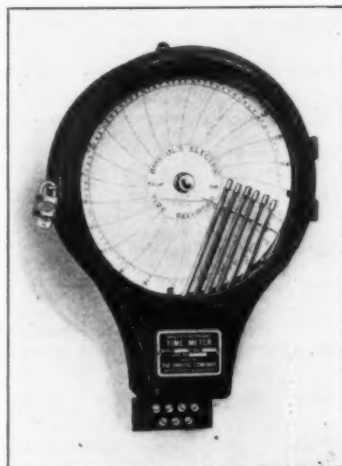
The Economy type also has common water supply and waste for each group of bowls in a battery. The capacity of each bowl is one gallon when full to the overflow. They are drained through a hole in the bottom, closed by a rubber plug, into a common trough. These bowls are removable and can be swung in either direction to or from the user, thus permitting every part of the apparatus to be accessible for cleaning. Each battery requires but a single trap thus saving considerable expense.—Manufacturing Equipment & Engineering Co., Framingham, Massachusetts.

### Motion and Operation Recorders

Automatic records of mechanical motion are made by the instrument here illustrated in round chart form. A second or strip chart model is also made. Such instruments are used on all kinds of industrial operations of machinery, elevators, conveyers, presses, etc., and in connection with a long distance transmitting system by the same makers.

The instrument pictured can be furnished with one pen-arm or any number up to 12, having charts 8 or 12 inches in diameter. The instrument is not complicated. Each pen-arm is an independent unit and is operated by an individual electric magnet and circuit. The necessary current may be supplied from batteries or lighting circuit.

In the case of the straight or strip chart model a continuous unbroken record over a period of several days is shown. The chart is 90 feet long and when operated at a speed of one inch per hour will provide a record for 45 days.



Bristol Electrical Recorder

Either model of this instrument has application in the press-rooms of rubber factories manufacturing scheduled production of molded goods such as tires, heels and many other lines.

In one instance the record of operation of 20 bicycle tire presses is being kept. From this record it is an easy matter to compare the relative operations of the several presses. It also serves as a check on the efficiency of men and equipment.—The Bristol Co., Waterbury, Connecticut.

## Machinery Patents

### The United States

**1,564,366. DIES FOR FORMING HOLLOW RUBBER ARTICLES.** Upper and lower mold plates of a shallow box pattern are attached respectively to the upper and lower platens of a press. Each mold plate carries corresponding half-ball cavities or dies with bevel cutting edges. Between the mold plates is a rotatable air bar for air pressure connection, and provided with cavities opposite each ball cavity with a recess to contain a cube of gas forming material. Hollow ball biscuits are formed by laying a sheet of rubber over the lower cavities, placing the air bar in position, laying over it a second sheet of rubber. The mold is then closed, clamping the sheets air tight around the box-like edges of the upper and lower halves of the mold and around the air-bar. Air pressure is then admitted, inflating the sheets into the upper and lower cavities. At this stage the air-bar is given a partial turn to drop the gas forming material into the lower cavities. The bar is then withdrawn and the press closed completely, this causes the cutting edges of the dies to cut and seal the sheets into ball biscuits with the gas material within. They are released for use in curing molds by opening the press.—John H. Overton, Trenton, New Jersey.

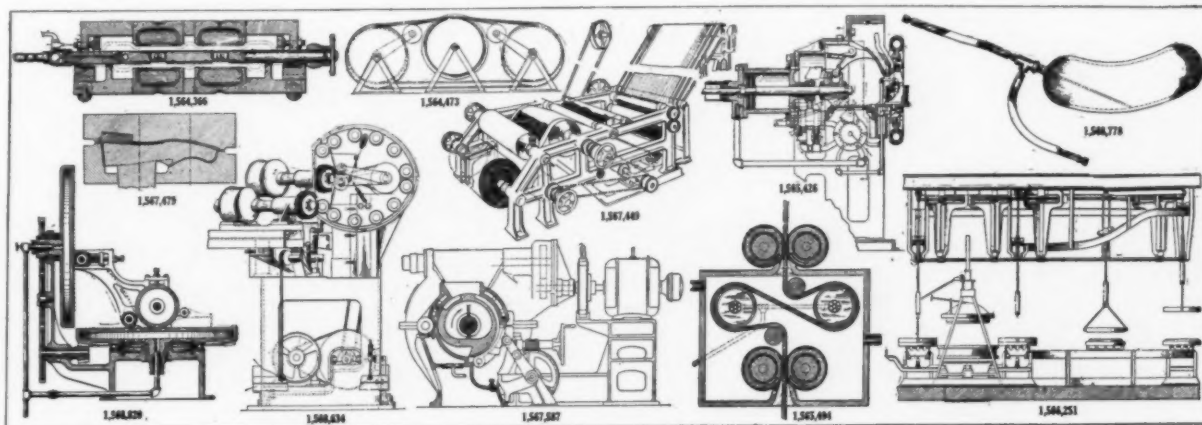
**1,564,473. VULCANIZING APPARATUS.** This provides for the continuous vulcanization of rubber hose traversing a spiral groove or mold formed by two endless belts, moving around a series of three drums. The hose made upon a lead core of suitable length feeds between the two mold forming belts and traverses a steam vulcanizing drum. After the hose is thus vulcanized, the lead core may be removed in any suitable manner, as by forcing air into the hose.—John C. Dykes, Chicago, Illinois.

**1,565,426. TIRE STRIPPING MACHINE.** This machine comprises a group of stripping fingers acting radially over the tire-core in the upper semi-circle of the latter, for pushing the bead of the tire casing over the crown of the core so that the casing may then be dropped or pulled from the lower part of the core. The actuating feature of the machine is a forked head or ram operated by air pressure under suitable control.—Dennis L. De Walt, Akron, Ohio, assignor to The B. F. Goodrich Co., New York, N. Y.

**1,565,494. APPARATUS FOR DRYING SHEET MATERIAL.** This relates to drying sheet material in a vacuum chamber provided with flexible rollers to seal the vacuum while permitting the passage of the sheet material. In operation the sheet to be dried enters the vacuum chamber between a pair of external air cushion rollers which contact with the sheet and the walls of the opening. In its passage through the chamber the sheet material passes around a number of idler rollers, leaving the chamber between a second pair of air cushion rollers. The cushion rollers are inflated to any desired degree according to the material being treated.—I. D. Patterson, assignor to The Goodyear Tire & Rubber Co., both of Akron, Ohio.

**1,566,251. TIRE VULCANIZING APPARATUS.** This is a composite mechanism for handling tires from the time they are ready to be cured until they are in condition to be stripped from the cores. In the factory, construction of this apparatus is designed as a part, the presses or beaters in which the tires are cured are located on a floor below the one in which the tires are finished. By this is meant that the building of the tire has been completed and it is ready for the curing operation. They are brought from the tire finishing room suspended on hooks of a chain conveyer, which passes a portion of a mold conveyer at a point which may be termed the loading station, where the cores and tires are removed from the conveyer and placed in the molds.—Carmon A. Myers, assignor to The Firestone Tire & Rubber Co., both of Akron, Ohio.

**1,567,449. FEEDING APPARATUS FOR CUTTING MACHINES.** The chief objects of this invention are to avoid interruption in the operation





of a bias stock cutting machine when removing and replacing the stock rolls and to avoid the necessity of an operator for controlling the supply of material to the stock loop. Two stock rolls are provided so that as soon as the material has been fully unwound from one stock roll the material from the other can be used to continue the supply. The stock rolls are so supported as to permit of an empty one being removed while the material is being unwound from the other roll.—William B. Monk, Birmingham, assignor to The Dunlop Rubber Co., Limited, Regents' Park, London, both in England.

1,567,479. **VULCANIZING MOLD FOR RUBBER FOOTWEAR.** This comprises two parts enclosing a metal last, supported on a tapered post. The edges of the molds are beveled to cut away the excess material that may extrude from the mold under pressure. There is an inward slope of the mold walls starting from the junction or edge of the sole. This slope is a characteristic feature of this mold. After vulcanization the shoe taken from the last is not suitable for use because its walls do not bulge out. This is remedied by subjecting the shoe to an after-cure without pressure whereby the shoe assumes and retains the desired contour and final shape.—Dirk F. Wilhelm, Doorwerth, assignor to Vereenigde Nederlandsche Rubberfabrieken, Heveadorp, Netherlands.

1,567,597. **APPARATUS FOR TREATING RUBBER.** This machine is for crushing, grinding, masticating or mixing rubber, rubber compounds or like plastic materials. The material to be thus treated is subjected to grinding action between the interior surfaces of a casing and the exterior surfaces of a rotor within the casing. These surfaces are so arranged that while there is relative rotation between them, there is also a limited relative axial movement in opposition to a yielding spring pressure.—Frank Garner, Chapel-en-le-Frith, and Alfred Hall, Audsall, both in England.

1,568,634. **BEAD-BUFFING MACHINE.** This is constructed to reduce the manual labor required in preparing a tire bead and to so clean its exterior surfaces as to insure good adhesion in tire construction. The semi-cured bead is made to travel as an endless belt driven by suitable mechanism, passing in its course between two buffing brushes which serve to clean its surfaces by abrasion.—Robert W. Snyder, assignor to The Goodyear Tire & Rubber Co., both of Akron, Ohio.

1,568,778. **STEAM HEATED AIR BAG.** In this invention air bags for tire repair vulcanization are provided with a single fluid-tight connection which at the same time permits the introduction and escape of live steam for heating and inflating the bag at one end.—R. W. Sohl, assignor to The Goodyear Tire & Rubber Co., both of Akron, Ohio.

1,568,820. **MACHINE FOR FORMING ANNULAR BLANKS FOR INNER TUBES.** Two circular heatable plates are mounted so as to revolve at right angles to each other. Bearing upon the horizontal plate is a calender roll with guides and cutting knives for forming a sheet of rubber and cutting it to a definite width. The strip of rubber thus formed is carried by the revolving horizontal plate around to a second roll which turns it upward and passes it to a third roll which builds it up by plies against the vertical revolving plate mentioned.—Charles F. Fensalon, Jr., assignor of one fourth to Harry C. Wilder and one fourth to Lewis F. Lehr, all of Malone, N. Y.

1,564,322. Electrically heated steam boiler. Carleton W. Campbell, assignor to Moll Manufacturing Co., both of Denver, Colorado.

1,564,496. Tire removing mechanism. Christian Staugaard, Detroit, Michigan.

1,565,176. Machine for making pneumatic tire covers or casings. Colin Macbeth, Birmingham, assignor to The Dunlop Rubber Co., Ltd., Regent's Park, County of London, both in England.

1,566,014. Collapsible tire core. Frank L. Johnson, Akron, Ohio.

1,566,090. Tube splicing device. Ray W. Hart, Akron, Ohio, assignor to The B. F. Goodrich Co., New York, N. Y.

1,566,259. Tire mold. Arthur Reid Colvin, Bloomfield, New Jersey.

1,566,500. Induction heater for and method of heating tire molds. Edwin Fitch Northrup, Princeton, assignor to Ajax Electrothermic Corporation, Trenton, both in New Jersey.

1,566,665. Method of producing rubber articles. Allen H. Frost and Charles Fred Fensalon, Jr., both of Malone, New York.

1,566,666. Apparatus for producing rubber articles. Allen H. Frost and Charles Fred Fensalon, Jr., both of Malone, New York.

1,567,007. Machine for stripping rubber nipples from metal forms. Paul A. Raiche, assignor to Davol Rubber Co., both of Providence, Rhode Island.

1,567,402. Tire mold. Charles J. Venn, Chicago, assignor to Century Rubber Works, Cicero, both in Illinois.

1,567,472. Solid tire facer and groover. Bruce E. Skiles, Santa Ana, California.

1,567,706. Mechanism for converting web of flexible material into sheets. James A. Cameron, Brooklyn, New York, and Robert McC. Johnstone, Roselle Park, New Jersey, assignors to Cameron Machine Co., Brooklyn, New York.

1,568,541. Apparatus for operating on rubber articles. George L. Bean, Quincy, Massachusetts, assignor to United Shoe Machinery Corporation, Paterson, New Jersey.

1,568,562. Method and apparatus for shaping plastic material. Frank J. MacDonald, Akron, Ohio, assignor to The B. F. Goodrich Co., New York, N. Y.

1,568,823. Straight-side bead flapping machine. Fred D. Fowler, assignor to Hood Rubber Co., both of Watertown, Massachusetts.

### The Dominion of Canada

256,138. Machine for forming and vulcanizing strip material containing rubber. The Canadian Consolidated Rubber Co., Ltd., Montreal, Quebec, assignee of Adrian Oren Abbott, Jr., Detroit, Michigan, U. S. A.

256,139. Apparatus for plying up rubber. The Canadian Consolidated Rubber Co., Ltd., Montreal, Quebec, assignee of Charles Lewis Foutz, Middleton, Connecticut, U. S. A.

256,154. Machine for making footwear. The B. F. Goodrich Co., New York, N. Y., assignee of Frank James MacDonald, Ellet, Ohio, both in U. S. A.

256,409. Cooling apparatus for rubber tubing. The Lee Rubber & Tire Corporation, New York, N. Y., assignee of one-half the interest of Charles Herbert Semple, Youngstown, Ohio, both in U. S. A.

256,432. Calendering, cutting and embossing machine. John A. McCrohan and Herbert C. Erich, both of New Haven, Connecticut, U. S. A.

256,616. Trimming machine. The United Shoe Machinery Co., of Canada, Ltd., Montreal, Quebec, assignee of Michael Frank Bregan, Lawrence, Massachusetts, U. S. A.

### The United Kingdom

241,134. Electrical vulcanizer. F. B. Dehn, 103, Kingsway, London. (E. G. Budd Manufacturing Co., 25th street, Philadelphia, Pennsylvania, U. S. A.)

241,176\*. Tire molds. Dunlop Rubber Co., Ltd., Fort Dunlop, Erdington, Birmingham, assignee of H. Willshaw, Dunlop Tire & Rubber Corporation of America, Buffalo, New York, U. S. A.

241,765. Tire valves. W. A. Anglemeyer, 1832, North Talbot avenue, Indianapolis, Indiana, U. S. A.

241,891\*. Tire molds. Pirelli & Co., 21, Via Ponte Seveso, Milan, Italy.

242,182. Repair vulcanizer. J. Zangl, 6 Feilitzschstrasse, Munich, Germany.

242,248\*. Tire molds. P. L. Menjou, 4 Rue Doudeauville, Paris, France.

\*Not yet accepted.

### New Zealand

54,779. Apparatus for separating metal particles from sand, having rubber layer. Frank Sneath Morgan, 2733 Ashley street, Berkeley, California, U. S. A.

### Process Patents

#### The United States

1,564,310. Molding rubber articles. Fordyce Charles Jones, London, England.

1,564,429. Overshoe. Warren MacPherson, Cambridge, and Ernest W. Dunbar, Hudson, assignors to Cambridge Rubber Co., Cambridge, all in Massachusetts.

1,565,482. Weightless tire forming cord band. Joseph A. McLane, Washington, District of Columbia, assignor to Ultratex Products Co., Boston, Massachusetts.

1,565,535. Method and apparatus for reducing adhesiveness of plastic material. Antoni Walezak, Akron, Ohio, assignor to The B. F. Goodrich Co., New York, N. Y.

1,565,616. Metallic tire bead and process of manufacturing same. Frank H. Beyea, assignor to John R. Gammeter, both of Akron, Ohio.

1,565,617. Cable bead for tires. Frank H. Beyea, assignor to John R. Gammeter, both of Akron, Ohio.

1,565,630. Making books and covers. Henry C. Egerton, Passaic, assignor to Harry L. Duncan, Ridgewood, both in New Jersey.

1,565,813. Pneumatic resilient tube, plastic composition combined therewith and process of manufacture. Anders John Ostberg, East St. Kilda, near Melbourne, Victoria, Australia.

1,566,165. Method of making articles from rubberized fibre composition. William G. O'Brien, assignor to The Goodyear Tire & Rubber Co., both of Akron, Ohio.

1,566,512. Laminated cohesive interwound rubber tube. Lawrence A. Subers, Lakewood, Ohio.

1,566,863. Panels for radio cabinets. Marion M. Harrison, assignor to The Miller Rubber Co., both of Akron, Ohio.

1,566,974. Hollow ball. Addison T. Saunders, Akron, Ohio, assignor to A. G. Spalding & Bros., New York, N. Y.

1,568,411. Making articles of vulcanizable material. Edward Nelson, Belleville, New Jersey, assignor to O. & W. Co., New York, N. Y.

1,568,513. Ball. Thomas A. Lewis, New York, N. Y.

### The Dominion of Canada

256,033. Waterproofing and increasing the strength of leather. Robert Russell, Rhodes, County of Lancaster, and Herbert Broomfield, Hazel Grove, near Stockport, County of Chester, both in England.

256,223. Laminated composite wheel. Harry N. Atwood, Monson, Massachusetts, assignee of George B. Bains, 3rd, Reading, Pennsylvania, both in U. S. A.

256,667. Constructing mats. James G. Bowser, Columbus, Kansas, U. S. A.

256,806. Coating fabrics. The Kaufman Rubber Co., Ltd., assignee of Julian C. Howard, both of Kitchener, Ontario.

### The United Kingdom

241,168\*. Molding pneumatic tires. C. H. Semple, Republic Rubber Co., Youngstown, Ohio, U. S. A.

242,227\*. Inflatable rubber articles. L. & J. Dorogi and Dorogi & Co. Rubber Goods Factory, Ltd., Dr., Budapest.

242,229\*. Arms for lay figures. B. Herzberg & Co., Akt.-Ges., 8 Seydelstrasse, Berlin, Germany.

242,246\*. Molding solid tires. Dunlop Rubber Co., Ltd., 1, Albany street, Regent's Park, London, assignee of H. Willshaw, Dunlop Tire & Rubber Corporation of America, Buffalo, New York, U. S. A.

\*Not yet accepted.

## The Editor's Book Table

### Book Reviews

"DIELECTRIC CONSTANT, POWER FACTOR AND RESISTIVITY OF RUBBER AND GUTTA PERCHA." By H. L. Curtis and A. T. McPherson, Technologic Papers of the Bureau of Standards, No. 299. Washington, D. C. Paper, 53, 7 by 10 inches. Illustrated.

THIS pamphlet is a part of Volume 19 of Technologic Papers of the Bureau of Standards and contains methods of measurement of dielectric constant, power factor and resistivity; effect of frequency, temperature and pressure on the electrical constants; preparation of specimen; composition and preparation of gutta percha, crude and vulcanized rubber; electrical properties of gutta percha and crude and vulcanized rubber; effect of rubber fillers and softeners on the electrical properties of rubber, and the absorption of water by rubber.

"ZINC OXIDE HISTORY, MANUFACTURE AND PROPERTIES AS A PIGMENT." By Dalton B. Faloan. New York, 1925. D. Van Nostrand Co. Cloth, 145 pages, 5½ by 8 inches. Indexed. Illustrated.

The author has successfully accomplished his object in the preparation of this book, the first ever written solely on the subject of zinc oxide, of helping the man who uses zinc oxide in the paint, rubber, oil-cloth, ceramics, printing ink, linoleum and other industries.

The book covers the history of zinc; the occurrence of its ores; the chemical and physical characteristics of zinc oxide; the French and American processes of manufacture; specifications for all grades of zinc oxide; physical and chemical testing methods, and government specifications and tests.

Rubber technologists, chemists and compounders will appreciate the specifications and practical methods given for sampling, analyzing and testing zinc oxides for rubber work.

"BULLETIN OF THE NATIONAL RESEARCH COUNCIL." Compiled by Clarence J. West and D. D. Berolzheimer for Research Information Service, National Research Council, Washington, D. C., 1925. Paper, 308 pages, 6¾ by 9¾ inches.

This bulletin is No. 50, and forms Part 3 of Volume 9 of the series. It is a bibliography of bibliographies on chemistry and technology from 1900 to 1924.

"RUBBER IN THE NETHERLANDS EAST INDIES." Bulletin of the Central Bureau of Statistics, No. 21. (English Edition). Issued by the Department of Agriculture, Industry and Commerce, Weltevreden, Java. Paper, 44 pages, 8¾ by 10¾ inches; tables, charts.

The growing importance of the Netherlands East Indies as a source of rubber makes this publication of special value to the rubber industry. Estate acreage figures show the increase from 435 acres, in the Outer Provinces only, in 1902 to 973,521 acres for the entire Netherlands East Indies in 1924. From this area the production for 1924 was 90,291 metric tons of which Java and Madura produced 42 per cent and the Outer Provinces 58 per cent. The average production for estates worked out at 292 pounds per acre in 1924. Exports of latex were 992 metric tons in 1922, 6,464 tons in 1923 and 2,779 tons in 1924.

Native rubber production receives special attention. The estimated production of dry rubber is 91,000 tons for 1925, which with the 104,600 tons figured out for the estates would give 195,600 tons net from the Dutch Colonies. As British-owned estates in the Dutch colonies cover 31.9 per cent of the total area under rubber, it is natural that these should have special consideration.

The bulletin closes with a table showing the areas under rubber in all the rubber-planting countries of the world from which it is seen that, in 1923, 32.3 per cent of the world's estate areas were in Dutch territory and 64.5 per cent in British territory. The acreage under British control came to 75 per cent of the total estate area.

"UNITED STATES GOVERNMENT MASTER SPECIFICATIONS." Published by the Department of Commerce, Bureau of Standards, Washington, D. C. Paper, 7 by 10 inches.

The following specifications, officially promulgated by the Federal Specifications Board on given dates for the use of the departments and independent establishments of the government, have been revised September 16, 1925:

- No. 40b. Gas Hose.
- No. 44b. Divers' Hose.
- No. 50a. Water-Suction Hose (Smooth Bore).
- No. 64a. Rubber Bands.

### Holiday Greetings, Calendars, Souvenirs

#### Calendars

With the season's greetings, Lockwood, Greene & Co., 24 Federal street, Boston, Massachusetts, have sent a twelve-page calendar, each page containing a photographic reproduction of some building representative of the company's engineering work.

An art calendar in color, its many pages showing scenes in the most picturesque sections of Switzerland, has been forwarded by M. Bezencenet, Crêpe Sole Rubber (Plantation Finished) Ltd., London, England.

Another art calendar, also in color, representing a landscape with a young woman seated in the foreground, has been sent by The Oak Rubber Co., Ravenna, Ohio.

The Stedman Products Co., South Braintree, Massachusetts, is continuing to publish its series of art calendars, containing photographic representations of early New England mills. The present one, the twentieth of the series, shows the old town mill of Chester, New Hampshire.

A historical calendar, well printed in brown tones, with each of its three leaves representing certain famous Americans, and in the background the historic buildings with which they were associated, has been prepared by The Roessler & Hasslacher Chemical Co., 709 Sixth avenue, New York, N. Y.

Another well-illustrated calendar, containing in an attached booklet much information regarding New England history, is a gift from the United Shoe Machinery Corporation, Boston, Massachusetts.

A large and beautiful calendar, its chief feature being a representation in color of the Santa Maria, Columbus' flag ship, has been sent by the Columbus Rubber Co. of Montreal, Ltd., Montreal, Canada.

The B. F. Goodrich Rubber Co., Akron, Ohio, has forwarded a striking twelve-leaved calendar, printed in color, and with each leaf containing a representation of some of the various types of the company's rubber footwear.

Large calendars printed in red and black have been received from The Schwarzwaelder Co., 1017-1027 Wood street, Philadelphia, Pennsylvania; E. L. Bullock & Sons, Inc., 99 John street, New York, N. Y.; and The Akron Standard Mold Co., Akron, Ohio.

Other large calendars, printed in two or three colors and each having some unique feature, have been sent by the Hartol Products, Corporation, Newark, New Jersey; the Akron Rubber Mold & Machine Co., Akron, Ohio; Bemis Associates, Inc., Watertown, Massachusetts; the Rubber Service Laboratories Co., Akron, Ohio; William Wrigley Jr. Co., 400 North Michigan avenue, Chicago, Illinois; and Thompson & Thompson, Inc., Amenia, New York.

Smaller calendars have been presented by the following organizations: The British Ebonite Co., Ltd., Hanwell, London, W. 7, England; the American Zinc Sales Co., Columbus, Ohio; and the McCreary Tire & Rubber Co., Indiana, Pennsylvania.

### Cards and Souvenirs

Two executives of *The India Rubber World* have received handsome brown leather billfolders, gifts from H. Muehlstein & Co., Inc., 41 East 42nd street, New York, N. Y.

These executives have also been the recipients of well-equipped black leather folders, sent by De Mattia Brothers, Garfield, New Jersey.

Still another billfolder has been presented by The Clyde E. Lowe Co., Cleveland, Ohio.

A useful little leather-bound notebook, containing several maps and important items of information, is the gift of John Royle & Sons, Paterson, New Jersey.

A handy little tool, containing a small screwdriver and screws, arranged in a compact pocket case, has been received from The Akron Equipment Co., Akron, Ohio; while another gift is an Eversharp pencil from the Rubber Service Laboratories Co., Akron, Ohio. The Reynolds Machine Co., Massillon, Ohio, sent a box of cigars.

Cards or special Christmas and New Year greetings were sent to us by the following: The Clyde E. Lowe Co., Cleveland, Ohio; the Davol Rubber Co., Providence, Rhode Island; the Hartol Products Corporation, Newark, New Jersey; the American Zinc Sales Co., Columbus, Ohio; Mitsui & Co., Ltd., New York, N. Y.; the Pequannoc Rubber Co., Butler, New Jersey; the Akron Standard Mold Co., Ohio; Bulkley, Dunton & Co., New York, N. Y.; the Flexo Supply Co., St. Louis, Missouri; the Coutlee-Muir Rubber Co., Ltd., Montreal, Canada; and the Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Canada.

Our best wishes for continued success and happiness are extended in this new year to all those who have so kindly remembered us.

### New Trade Publications

"BIRMINGHAM RUBBER MILL MACHINERY" is a comprehensive catalog of 60 pages, indexed and splendidly illustrated, comprising selections from the diversified line of heavy rubber working machinery manufactured by the Birmingham Iron Foundry, Derby, Connecticut. Other machine products listed only in this catalog are equal in number to those pictured and described. Together they include the latest rubber mill equipment for every line of rubber products.

AN EIGHT PAGE SUPPLEMENT HAS BEEN ISSUED BY THE ROESSLER & Hasslacher Chemical Co., 709-17 Sixth avenue, New York, N. Y., as an addition to their notebook data on accelerators. The information contained relates to tensilac, hexa, aldehyde ammonia, and ethylidene aniline. It is illustrated by curing charts of each accelerator.

"A GUIDE TO SHANGHAI RUBBER COMPANIES," AS COMPILED BY David Arakie, and published by *Capital and Trade*, 25 Jinkee Road, Shanghai, China, contains interesting information, while some important statistics and a review of the rubber industry appear in the preface.

IMPORTANT DATA REGARDING INSULATED WIRE AND CABLES APPEAR in an illustrated catalog issued by the American Electrical Works, Phillipsdale, Rhode Island. A series of photographs represents the developments in the company's plant since the year 1870.

"THE MEASUREMENT OF MATERIALS," AN ILLUSTRATED BULLETIN published by the Toledo Scale Co., Toledo, Ohio, contains data of interest to rubber manufacturers.

"STOKES VACUUM DRIERS, CHEMICAL APPARATUS AND Impregnators" is the title of Catalog No. 26 issued by the F. J. Stokes Machine Co., Philadelphia, Pennsylvania. It illustrates and describes rotary and chamber driers for reclaimed rubber, washed crude rubber and other materials. A data sheet is included showing that reclaimed rubber containing 50 per cent of moisture can be dried down to 1 per cent by a rotary vacuum drier at a cost of \$2.11 per ton.

### Legal Decisions

#### Customs Appraisers

No. 50650. Protest 32725—G etc., of Mason Bros. & Tarlin (Boston), and protests 88009—G, etc., of Carl Silverman et al. (New York). Rubber balls classified as toys at 70 per cent ad valorem under paragraph 1414, tariff act of 1922, are claimed dutiable at 30 per cent under paragraph 1402. Opinions by Sullivan, G. A. On the authority of *United States v. Stewart Co.* (12 Ct. Cust. Appls. 533; T. D. 40734), affirming G. A. 8807 (T. D. 40210), the rubber balls in question were held dutiable under paragraph 1402.—*Treasury Decisions*, Volume 48, No. 25, page 28.

No. 50711. Protest 56032—G of Geo. Borgfeldt & Co. (Baltimore). Colored rubber balls classified as toys at 70 per cent ad valorem under paragraph 1414 tariff act of 1922 are claimed dutiable at 30 per cent under paragraph 1432. Opinion by Sullivan, G. A. It was evident that paragraph 1432 was stated in the protest instead of 1402, but as the collector was not misled by this error the protest was held sufficient. On the authority of G. A. 8807 (T. D. 40210), affirmed in *United States v. Stewart* (12 Ct. Cust. Appls. 533; T. D. 40734), the rubber balls were held dutiable under paragraph 1402.—*Treasury Decisions*, Volume 48, No. 25, page 37.

No. 50712. Protests 57152—G, etc., of Geo. Borgfeldt & Co. et al. (Milwaukee and Philadelphia). The question here is whether colored rubber balls were properly classified as toys under paragraph 1414, tariff act of 1922, or whether duty should have been assessed at 30 per cent under paragraph 1402. Opinion by Sullivan, G. A. On the authority of G. A. 8807 (T. D. 40210) affirmed in *United States v. Stewart* (12 Ct. Cust. Appls. 533; T. D. 40734) the rubber balls in question were held dutiable at 30 per cent under paragraph 1402 as claimed.—*Treasury Decisions*, Volume 48, No. 25, page 37.

No. 50753. Protests 101602—G, etc., of Progressive Agency et al. (New York). The merchandise in question marked A consists of colored rubber balls returned for duty as toys at 70 per cent, under paragraph 1414. In view of T. D. 49734 it would now be returned at 30 per cent, under paragraph 1402, as amended. We therefore hold the tenpin sets, marked "A," covered by protest 101602—G, and the colored rubber balls, marked "A," covered by protests 121522—G and 114046—G, dutiable, as claimed in the protests, at 30 per cent ad valorem under paragraph 1402.—*Treasury Decisions*, Volume 48, No. 26, page 53.

No. 50755. Protest 57097—G/67815 of Carson, Pirie, Scott & Co. (Chicago). Colored rubber balls classified as toys at 70 per cent under paragraph 1414, tariff act of 1922, are claimed dutiable at 30 per cent under paragraph 1402. Opinion by Sullivan, G. A. G. A. 8807 (T. D. 40210) affirmed in *United States v. Stewart* (12 Ct. Cust. Appls. 533; T. D. 40734) followed, holding colored rubber balls dutiable under paragraph 1402.—*Treasury Decisions*, Volume 48, No. 26, page 55.

#### Patents

NIKAIDO VS. BRUNI. Appeal by Bruni from decision of the Examiners in Chief reversing decision of Examiner of Interferences, and awarding priority to Nikaido. The invention relates to a vulcanizing process in which a metallic salt of a dithiocarbamic acid is used. It was held, that Nikaido has established a reduction to practise of the invention in June, 1918, which is prior to the date to which Bruni is restricted—namely, March 15, 1919, the filing date of his Italian application—and that priority was properly awarded to Nikaido. The decision of the Examiners in Chief was affirmed.—*Official Gazette*, Vol. 341, December 22, 1925, p. 837.

LEADING IMPORTERS DURING OCTOBER OF AMERICAN PNEUMATIC casings include: United Kingdom, 15,601 casings, value \$219,961; Argentina, 13,926, value \$183,824; Australia, 10,656, value \$175,390; Japan, 10,659, value \$120,138; Cuba, 8,543, value \$102,998; and Brazil, 7,899, value \$96,379.



## Abstracts of Recent Articles

**APPLICATION OF RESEARCH TO THE RUBBER INDUSTRY.**—By R. P. Dinsmore. This paper was presented before the Section of Social and Economic Sciences at the Kansas City Meeting of the American Association for the Advancement of Science, December 31, 1925. The author shows that since the early discovery of vulcanization by Charles Goodyear, the rubber industry owes its progress to research in some phase stimulated by the development of automobile tires. Many of the problems, the study of which has advanced the technology of the rubber industry, are reviewed. Those branches of the rubber art which differ most from other industries, and regarding which the least amount of general knowledge is available, will profit most by investigations of a fundamental character. The necessary balance must be maintained between applied research for immediate return, research for more remote applications, and fundamental research, the application of which cannot with certainty be predicted.

**THE EFFECTS OF OILS ON RUBBER MIXINGS.**—Anonymous. *Rubber Age*, London, January, 1926, 537.

**GUAYULE RUBBER.** Address reviewing the production, value and use of guayule rubber.—David A. Cutler, *Rubber Age*, New York, December 25, 1925, 202.

**EXPERIMENTAL METHODS IN RÖNTGENOSCOPY OF COLLOID SYSTEMS.**—H. Mark, *Kolloid-Zeitschrift*, December 1925, 351-355. Diagram.

**APPLICATION OF RÖNTGENSPECTROGRAPHY IN INVESTIGATING COLLOID SYSTEMS.**—R. O. Herzog, *Kolloid-Zeitschrift*, December, 1925, 355-358.

**METHODS OF VISCOSIMETRY.**—Werner Stauf, *Kolloid-Zeitschrift*, December, 1925, 397-405. Table, graph, illustrations.

**ON THE ACTION OF VULCONE. A CONTRIBUTION TO REVERSION.** In mixings of 100 parts smoked sheet, 5 zinc oxide, 5 sulphur, vulcanized at a pressure of 3.2 atmospheres and with the addition of 0.5 to 6 parts vulcone, increases in tension and solubility and decrease in hardness, indicating reversion, were found in proportion as the amounts of vulcone increased. A very comprehensive investigation into the action of diphenylguanidine used in the same standard mixing, failed to reveal reversion in any one of the 22 cases studied.—Dr. Ludwig Stoll, *Gummi-Zeitung*, December 18, 1925, 676-678. Tables, graphs.

**AGGREGATION AND REAGGREGATION OF CRUDE RUBBER IN NORMAL AND DEFORMED CONDITION.** In consequence of vulcanization by cold, there is a vulcanization by pressure. The elastic properties of reaggregated test pieces deformed by tension increase, and the amount of increase depend on the degree of tension exactly as in vulcanization the values depend on the vulcanization period. It is, therefore, correct to speak of a third physical vulcanization process—deformation vulcanization. In stretched pieces which were vulcanized, neither heating nor swelling in benzol could cause to go back the tension fixed by the action of vulcanizers. Halagene was more rapidly absorbed by stretched than by normal pieces.—M. Kröger, *Gummi-Zeitung*, January 1, 1926, 782-784.

**HAS THE SERUM OF HEVEA LATEX ANY VALUE?** Points out the appearance of quebrachite in the serum and the possible application of this substance.—W. Spoon, *Archief voor de Rubbercultuur*, December, 1925, 937-947. Table.

**FACTORS INFLUENCING THE PLASTICITY OF SOLE CRÊPE.** The cause of the spread of sole crêpe in wear is the plasticity which is induced in the process of machining. The milling of crêpe rubber although necessary to give a regular and uniform product should be restricted as far as possible.—H. P. Stevens, *Bulletin Rubber Growers' Association*, December, 1925, 716-719.

**PLASTICITY TESTS FOR SOLE CRÊPE.** Details of the test method of the author duplicating as nearly as possible the conditions to which sole crêpe is exposed in service.—H. P. Stevens, *Bulletin Rubber Growers' Association*, December 1925, 720-722. Graph.

**VULCANIZED LATEX AND ITS COMMERCIAL APPLICATIONS.**—Philip Schidrowitz, *India Rubber Journal*, January 2, 1926, 29.

**LEAF DISEASES OF HEVEA.**—Charles Herbert Wright. (Conclusion from issue of December 5, 1925) *India Rubber Journal*, December 26, 1925, 1145-1146.

**ON ELASTICITY.** Form alteration caused by the application of external force to a solid body is often mis-called elasticity. Form alteration implies elasticity but is not its measure. It is correctly indicated by dividing "work regained" by "work applied."—Professor A. Schob, *Gummi-Zeitung*, December 11, 1925, 624-625.

**INVESTIGATIONS INTO THE MOVEMENT OF LATEX IN THE LATEX VESSELS.**—Dr. W. Bobiloff, *Archief voor de Rubbercultuur*, December, 1925, 913-934, Illustrations, English summary.

**FATTY ACIDS IN ACETONE EXTRACT OF HEVEA RUBBER.**—P. Dekker, *Communication of the Netherlands Government Rubber Institute*, Delft. Volume LXX, No. 18, October 31, 1925, 815.

**ON THE PROCESS OF MASTICATING.** A structure theory consideration.—Dr. Ernst Hauser and Dr. H. Dannenberg, *Kautschuk*, November, 1925, 6-7.

**ON DISPERSITY CHANGES OF RUBBER. I.**—Dr. F. Evers, *Kautschuk*, November, 1925, 8-9. Table, graph.

**ON MASTICATING AND THE MIXING PROCESS.**—Dr. St. Reiner, *Kautschuk*, November, 1925, 9-10.

**ON LATEX AND RUBBER CHEMISTRY.** Review covering latex concentration; latex in fighting insect pests; theory of the calender effect; cold cure; measuring viscosity of rubber solutions; properties of matured rubber; isolating a natural ultra-accelerator.—Dr. E. Hauser, *Kautschuk*, November, 1925, 10-11.

**POINTS FROM THE FIELD OF PHYSICAL AND PHYSICS.**—Chemical Research Work. Review.—Dr. L. Hock, *Kautschuk*, November, 1925, 12.

**THE RECOVERY OF VOLATILE SOLVENTS.**—J. H. Bregéat, *Le Caoutchouc et la Gutta Percha*, December 15, 1925, 12939-12941. Table.

**ON A DEVIATION FROM POISEUILLE'S LAW.**—B. Marzetti. *Rendiconti della R. Accademia Nazionale dei Lincei*. Volume II, Series 6a, Nos. 5 and 6, 169-173. Table.

**TAPPING SYSTEMS AND OTHER FACTORS INFLUENCING YIELD OF HEVEA BRASILIENSIS.**—F. G. Spring, *The Malayan Agricultural Journal*, Vol. XIII, No. 9.

**PERIODICAL TAPPING OF HEVEA. I.** The experimental basis of periodical tapping.—J. Grantham; and **II.** The effect of alternate periods of tapping and resting on the quality of the rubber.—B. J. Eaton and R. O. Bishop, *The Malayan Agricultural Journal*, November, 1925, 342-355.

**FURTHER DATA ON SLAB RUBBER.**—The general consensus of opinion seems to be that matured rubber offers no distinct advantages over ordinary plantation rubber and is not particularly appreciated. Native slab rubber has a much higher moisture content than European slab. The rate of cure for amber blanket prepared from native slab shows variations from 50 to 145 minutes, the average being 95-100 minutes. Alum as a coagulant neutralizes the effect of maturation on rate of cure and from this standpoint the use of alum for native slab may be considered desirable.—O. de Vries and W. Spoon, *Archief voor de Rubbercultuur*, November, 1925, 849-899. Photos, tables, English summary. 900-908.

**FINISHING RUBBER GOODS.**—*Gummi-Zeitung*, November 13, 1925, 399-400. Diagrams.

## SPORTING GOODS AFFECTED BY HIGH RUBBER PRICES

The high price of rubber is having its effect on all sporting goods including golf, tennis, and water polo balls, boots, and various elastic goods. Although bicycle and motorcycle tires were first to show the rise in crude rubber, the advance in price is especially felt in the case of golf balls, where the retail price has been forced up ten cents, with prospects of a still greater increase in the near future. The present average price of eighty-five cents is however considerably lower than that during the war, when golf balls were sold for approximately one dollar apiece. Pre-war rates were thirty-five cents apiece, or three for one dollar.

## New Goods and Specialties

### Rubberized Quilt

**N**EWAWET is a quilted pad and rubber sheet combined which is sanitary, waterproof and heatproof. It is cross stitched, the advantage of this being that wadding lays flat, and sagging, lumping and warping are eliminated. The baby's blanket illustrated may be washed in either cold or warm water—be folded flat, put



Baby's Blanket

through the wringer and quickly dried. As it is 100 per cent waterproof, it is guaranteed not to shrink. One side is quilted and made of two layers of 68/72 nonshrinkable nainsook, with a filler of 5 pound glazed, sterilized, absorbent wadding. The other side is treated by a patented process with a veneer of pure acid cured rubber, making it non-injurious to the most delicate skin. When washing, the rubber will not peel nor crack leaving the baby on cold wet rubber. The rubber sheeting is permanently attached and cannot be separated from the quilting, and, as the stitching doesn't go through the rubber the blanket is guaranteed to be waterproof.

There is a Nevawet product for every purpose where a waterproof, heatproof, washable, sanitary fabric is needed. They cannot be harmed by rough usage, a little soap and water making them smooth, white, clean, ready for service.—Nevawet Products Corporation, 28-30 West 25th street, New York, N. Y.

### Gun Recoil Pads

The Jostam Manufacturing Co., 5252 Broadway, Chicago, Illinois, have added many new features to their sponge rubber recoil pads.

On the Hard Rubber Back the air chamber under the pad has been hollowed out and enlarged and the hard rubber base and soft cushion are united inseparably by special process. This pad screws to the stock and can be buffed to fit any gun. Another type, the Anti-Flinch, is used on shotguns and is made of live red rubber vulcanized on black hard rubber base plate. Oblong holes through soft rubber, slanting at an angle of 45 degrees in line with stock, eliminate upward whip of muzzle and take up the recoil.



ANTI FLINCH    SPONGE RUBBER    LACE-ON    AIR CUSHION

### Jostam Pads

The Sponge Rubber pads are claimed to be the softest pads on the market, and are made in one, two and three ply. At the base is a strip of red sheet rubber, which is tacked and cemented to the stock, and the pad in turn is cemented to the red strip. Between

the layers of sponge there are strips of red gasket rubber to give the pad body and strength. These pads are faced with soft, red molded rubber. The Air Cushion pad is made of para rubber, of similar construction, having the soft red cushion and black base plate, hollow cushion and chamber extending from toe to heel.

Still other types are the Lace-on pads made of chrome, calf skin and waterproof leather cemented to sponge rubber base.

### Rubber Bulb Bowls

This latest use of rubber provides an article of beauty and utility which will appeal to every housewife. Unbreakable, harmless to



Avon Flower Bowl

furniture, the Avon flower bowl can be freely handled. It is pliant yet of permanent shape, light but very durable, and as it is impervious to moisture it leaves no ugly stains to mar the most polished surfaces. The bowls are in pure classic design, six inches in size, and can be obtained in black, terra, green, violet or mixed.

The same company is also offering the "Jazz Bouncer," an unburstable sponge rubber play ball which is proving very popular. "These balls have a mat finish and a rich mixed coloring and are supplied in sets of one dozen. The name is aptly chosen, as the effect, when the ball is bouncing, is extremely jazzy.—The Avon India Rubber Co., Ltd., 343-5 Euston road, London, N.W.1., England.

### Rubber Toys

Something new in the Rubbadubdub toys are the glove dolls which give endless amusement to boys and girls of every age. They are made to slip on like gloves, inserting the thumb and little finger



Rubbadubdub Glove Toys

into the "hands" and putting the other fingers into the "head." By simply moving the fingers these clever little toys follow each movement of the hand and can be made to salute, clap, bow, etc. The illustration shows the seven different styles.—J. G. Franklin & Sons, Ltd., 11-17 Colvestone Crescent, London, E. 8, England.

### Waterproof Hat-Cap

Comfort, convenience and serviceability are all noted in the Red Head brand hat-caps for the camper and hunter. The cap illustrated is made with a round crown and interlined with rubber, the brim, fitting close at the side and back, may be turned down to prevent rain from running down the neck, and is stitched and stiffened in front to form a visor. An additional protection for the neck and ears is provided by an inside plush band which turns down, and the full cap has a flannel interlining.—Alward-Anderson-Southard Co., 925-929 West Chicago avenue, Chicago, Illinois.



Red Head  
Hunting Cap

### Rubber Kneeling Mat

Everyone kneels sometimes—perhaps to do a bit of gardening or to join in the kiddies' play—and the Kneel-on-Air mat is so comfortable it makes you want to kneel. It is made of cellular red rubber, can be washed and may be hung up when not in use. Soft as a down cushion, the mat



Kneel-on-Air

is ideal for hospitals and in the household will save a host of domestic troubles such as, sore knees from rough floors, rheumatism from damp places and complaints and grumbles from servants with tales of housemaid's knees.—James Lyne Hancock, Ltd., 266, Goswell road, London E.C.1, England.

### Cushioned Baseball

The construction of a new cushioned cork center baseball insures perfect balance and resiliency. The center is made of a lathe turned sphere of live cork surrounded by black semi-vulcanized rubber over which is vulcanized another cover of red rubber. The manufacturers claim that players using this ball consider the new construction the greatest improvement ever known in baseball making.

Before the advent of the cork center the big leagues were compelled to throw out balls which had been batted comparatively a few times, the ball softening under the terrific strain of hitting. This was overcome by the original cork center ball which the new construction further perfects as to balance and liveliness, not only when new but long after it is in use.—A. J. Reach Co., Tulip and Palmer streets, Philadelphia, Pennsylvania.



Official American League  
Ball

### Bus Heavy Duty Tube

The new "True Blue" heavy duty tube for bus and truck tire service, recently put on the market by the India Tire & Rubber Co., Akron, Ohio, is giving highly satisfactory service, according to officials. So far there has been nothing but praise from users of the tube. The tube is specially designed to stand up under the strain of fast runs. Bus and truck operators in the past have experienced trouble with most tubes in this kind of service.

### Rubber Toy and Combination Baskets

The firm of F. A. O. Schwarz, Fifth avenue and 31st street, New York, N. Y., has a most attractive collection of baskets filled with rubber toys with which to amuse the baby. The size and shape of the baskets vary from 8½ by 8½ inches to 13 by 13½ inches, and are round, square or oblong. Grouped around the edges is an assortment of rubber animals, the number in accordance with the size of the basket, and suspended from the handle is a rubber rattle secured with a large bow of pink or blue ribbon. The ribbon bows are repeated at various places around the basket and handle making the outfit very pretty and gay and sure to please.



Baby Toys

### Kemi-Suede Waterproof Covering

A new and beautiful waterproof covering, produced in many artistic colors and closely resembling suede leather in texture and appearance, has been introduced for a variety of uses such as roof and floor covering, upholstery, automobile linings, table top material, etc. It is known as Kemi-Suede and comes in different weights, single and double faced rubber covered on sheeting. The surface composition presents the appearance and feel of suede leather due to the presence of fine new soft cotton fiber imparting a velvety character to the goods.—The Leon L. Wolf Waterproof Fabric Co., Cincinnati, Ohio.

### Combination Air and Hot Water Cushion

Wintry nights when feet and body ache, extra warmth is provided by the combination air and hot water cushion pictured here. Large enough to cover chest, back and limbs, soft and flexible because also inflated with air. Heat is retained hours because of its greater capacity, and comfort supplied by the free circulation of body-warmth air made possible by the tufted arrangement.

Fashioned with separate inlets for water and air, it is used with air only as a cushion and with water only for lasting heat or with both air and heat where a soft, flexible hot water bag is desired. The material used is a rubberized fabric with seams that cannot leak.—The Airubber Corporation, 589 East Illinois street, Chicago, Illinois.

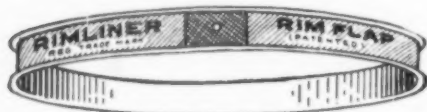


Air Rubber Cushion



### Rim Liner

There is no end to the loss in tire and tube mileage and trouble from tires "frozen" and rotted fabric. Practically all of this loss and annoyance can be eliminated by the use of a rim flap or liner on the rim itself. The "Rimliner" here pictured covers the rim from bead to bead. It has double strength at the valve hole, and is instantly and permanently applied. There is no danger of its shifting on the rim and catching or pinching the tube. The top glazes in use therefore will not chafe the inner tube. —Rawhide Products Distributing Co., Kenilworth, New Jersey.



"Rimliner" Flap

valve hole, and is instantly and permanently applied. There is no danger of its shifting on the rim and catching or pinching the tube. The top glazes in use therefore will not chafe the inner tube. —Rawhide Products Distributing Co., Kenilworth, New Jersey.

### New Device for Telephone Use

Those who have difficulty hearing a telephone conversation by reason of surrounding noises, poor transmission, or impaired hearing will find this device a solution of their troubles. The Auxil-A-Phone is a headphone without an electrical connection and is not attached to the phone—the regular receiver being placed



The Auxil-A-Phone

against one earpiece and the sound heard clearly in both ears. It is durably constructed, the ear pieces being made of polished bakelite, sound tube silk covered rubber and the connecting parts of gun-metal brass. In an emergency two people can listen from the same receiver and it is valuable in long distance conversation where repetition increases the toll bill.—Telephone Auxiliary Co., Inc., 19 Madison avenue, New York, N. Y.

### Golf Home Trainer

Business men and women have long felt the need of a practicing device which might assist them in eliminating their faults and perfecting their strokes. With one of the Backus Golf Home Trainers they may take private lessons from a professional at home and put in ten to twenty minutes practise each day which will improve their game and keep them fit. The device shows in addition to distance all the imperfections of the stroke; hook, slice, top and under. The distance indicator will show a drive of three hundred yards.—Backus Novelty Co., Smethport, Pennsylvania.

### Automatic Fastener Gaiters

The United States Rubber Co., 1790 Broadway, New York, N. Y., has added to its supply of overshoes a new automatic fastener gaiter which is known as the "Countess." The popularity of the gaiter is increasing every day, finding great favor with women of all ages, particularly in the slushy winter months. The Countess is neat and trim in appearance, affording a sure protection against the wet and cold. It is made with the rubber soles and cloth uppers so much in vogue at present, with no hooks or clasps to catch in the skirts.

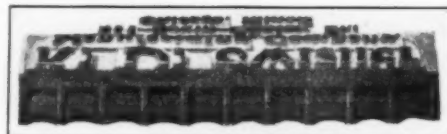


The Countess

### Cushioned Rubber Stamp

The unusual resiliency in the cushion metal base index

stamp affords, under slight hand pressure, clear imprints and so does away with the usual bang which is always harmful to the rubber printing die both in wear caused by rough treatment and the resulting blurry imprint. Both the cushion and the printing die are made of tested rubber that does not harden with

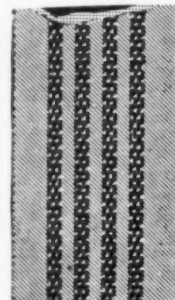


Cushion and Printing Die

age, and in molding the die care is taken to insure that each individual letter prints perfectly. On top of the stamp, in easy reading position, is an exact reprint of the stamping die. The index under clear transparent celluloid aids in a quick selection of proper stamp and prevents stamping upside-down.—The R. D. Swisher Manufacturing Co., 411 South Clinton street, Chicago, Illinois.

### Keeps Shirt and Trousers Snug

Unsightly bulging of shirts at the waist is eliminated by Snugtex, the new trouser curtain which differs from most curtains in that it has the four strands of rubber woven into the fabric horizontally. It grips and clings to the shirt keeping it smooth and the trousers snug. It will not mar the clothes nor bind the wearer, lasting as long as the average pair of trousers and may easily be replaced. Snugtex may be worn either with suspenders or belt, and is adaptable to sport clothes, evening dress or business suits. There are two widths, the first being 1 1/4 inches wide and may be sewn on trousers already equipped with curtain; the other is 2 3/4 inches wide and is used as complete trouser curtain. It is available in all staple colors—white, pearl, buff, slate or black and is put up on handy reels containing 12 yards, in either width.—Everlastik, Inc., 1107 Broadway, New York, N. Y.



Snugtex

## The Obituary Record

### President of Goodyear Tire & Rubber Co.

**W**HILE at his home in Akron, Ohio, death came suddenly on January 22 to George M. Stadelman, president of the Goodyear Tire & Rubber Co., and vice-president of the Rubber Association of America. Although not feeling well for several weeks, Mr. Stadelman had not been considered seriously ill.



George M. Stadelman

Born April 8, 1872, at Winona, Minnesota, he spent his boyhood in that city, his connection with the rubber industry beginning in 1894, when he became employed as salesman by Morgan & Wright. Serving that organization successively as Philadelphia representative and sales manager, Mr. Stadelman finally resigned in 1901 in order to join the Goodyear company. His activities in this later connection began with management of the solid tire sales department, this being followed in 1906 by his appointment as general sales manager. In 1909 he was elected

secretary of the company, and in 1915 became a director through his advancement to vice-president in charge of sales. In 1921 he was also made a director of the Goodyear Tire & Rubber Co. of Canada, while in 1923 he was appointed an alternate member of Secretary Hoover's rubber investigation committee.

In 1923, as successor to E. G. Wilmer, Mr. Stadelman became president of the Goodyear organization, while in January, 1924, he was elected vice-president of the Rubber Association and reelected the year following and the present year also. He is survived by his widow, a son and a daughter.

George Stadelman was sincerely beloved by his friends and business associates. Possessing great ability and a clear-thinking constructive mind, his future as a prominent leader in the rubber industry was assured. His untimely passing will be a severe loss to the Rubber Association, and greatly regretted by the whole rubber trade.

### Sales Manager Fisk Rubber Co.

The sudden death on December 21, 1925, of George H. Hamilton, for the past two years sales manager of the central district of the Fisk Rubber Co., Chicopee Falls, Massachusetts, was a severe shock not only to his associates in the Fisk organization, but also to his many friends throughout the tire industry.



George H. Hamilton

manager, and devoted particular attention to the sales of bicycle tires and sundries.

Mr. Hamilton was born in 1881 in Lebanon, Indiana, and spent his early life in Lafayette in that state. After his education at Perdu University his first business connection was with the G. & J. Company, Indianapolis, Indiana. He remained with that company chiefly in a sales capacity until the formation of the United States Tire Co. in 1910. He then became associated with the Continental Rubber Co. of Erie, Pennsylvania, as eastern district sales

Mr. Hamilton joined the Federal Rubber Manufacturing Co. as assistant sales manager when that company was formed in 1911. During the war he was Washington representative for the Federal company and after his duties there were over he was transferred to New York as assistant sales manager and organized the export department for the Federal company. He left the company in 1920 and joined the Gillette Rubber Co., Eau Claire, Wisconsin, as director of sales. Two years later he rejoined the Federal organization which then had become a subsidiary of the Fisk Rubber Co. and assumed the duties of sales manager for the Federal division of the Fisk company at Chicopee Falls, Massachusetts.

### Death of J. Oliver Stokes

J. Oliver Stokes, president of the Thermoid Rubber Co. and treasurer of the Joseph Stokes Rubber Co., Trenton, New Jersey, died January 24, at Santa Monica, California. Burial will be at Trenton. His obituary will appear in our next issue.

### A Rubber Man of the Old School

Frederick Thomas Ryder, one of a notable group of men whose entire business life virtually was spent in the service of the Boston Rubber Shoe Co., died, in his 68th year, at Manchester, New Hampshire, January 3, 1926. He



Fredrick T. Ryder

was born in Belfast, Maine, May 1, 1858. His business connection began as secretary of the late Elisha S. Converse, for many years the head of the Boston Rubber Shoe Co. Mr. Ryder was eminently fitted for secretarial work and retained his post for many years until the death of his principal, when he became assistant general manager of the company. This position he resigned in January, 1898, assuming at that time the duties of treasurer of the Easthampton Rubber Thread Co. Shortly thereafter he was for a brief period associated with the Apsley Rubber Co., Hudson, Massachusetts, and later was sales agent of the Consumers Rubber Co., Bristol, Rhode Island. From 1914 to 1920, the time of his retirement from business on account of ill health, Mr. Ryder was identified with the United States Rubber Co. in the sales management of the sole and heel output of the Revere Rubber Co. He is survived by his wife, two daughters, Mrs. Richard Graham, and Mrs. Fenimore Lynch, and three sons, Frederick T. Jr., Howard W., and Harry L. Ryder. He was for many years a member of Converse Lodge of Masons, Beauseant Commandery, and of the Lodge of Elks, all of Malden, Massachusetts.

Of Fred Ryder it should be said that he attained prominence when the rubber shoe industry was dominated by a few large concerns. As secretary of the founder of the Boston Rubber Shoe Co. he was on the inside in the long struggle between the Converse and Bannigan interests that resulted in a draw but curiously enough enriched both contestants. Actually Mr. Ryder was more than a secretary to Mr. Converse. He was in fact a trusted conscientious other self. Possessed of an orderly mind,

courteous, sparing in speech, never for an instant stampeded by the unexpected, he was respected by all. In the passing of this super-secretary the industry loses one of its historic figures.

#### Former President of A. Klipstein & Co.

On the evening of January 8, August Klipstein, founder of the organization known as A. Klipstein & Co., 644 Greenwich street, New York, N. Y., died at his residence on West End avenue. He was in his seventy-eighth year, and for some time had been in poor health. Mr. Klipstein for more than fifty years had been associated with the dyestuff and chemical industries, in which fields he had done some valuable work. He is survived by his widow, two sons, and a daughter.

#### Former Goodyear Attorney

W. E. Young, who was some years ago leading attorney for the Goodyear Tire & Rubber Co., Akron, Ohio, and former mayor of Akron, died January 13 of heart disease, aged 63 years. He was prominently identified with the rubber business in a legal capacity.

#### George H. Mayo

George H. Mayo, who died last month, was well-known in the rubber footwear industry. An illustrated obituary will be published in our forthcoming issue.

### Rubber Planting Investments

The abundance of data available concerning individual rubber companies makes the selection of a rubber investment comparatively easy. However, there are some important points to be considered if mistakes are to be avoided. Thus the market capitalization per planted acre, though it plays a prominent part in calculation of the value of an investment, should not be made the basis of such calculations; it does not necessarily follow that a share valued at £100 per acre is cheap compared with a share valued at £200 per acre. The first might produce only 200 pounds of rubber per acre and hence at a comparatively high cost, while the latter might give a crop of 450 to 500 pounds per acre at a very low cost. Capitalization per planted area, therefore, should be considered in conjunction with yield per mature acre, cost of production and working capital, to ascertain the pounds of rubber a company is able to produce for every pound of capital used, which is the only reliable guide to the value of shares.

Thus at prevailing prices, a concern capitalized at £200 per acre and producing 400 pounds per acre, turns out 2 pounds of rubber per £1 of capital employed and if the profit were only 1s per pound, the earning power would be 10 per cent. A quick method for making this calculation is to multiply the capital of a company by the market price of the shares. The standard production should be divided by the result and the figure thus obtained will be so many pounds of rubber per £1 of capital.

It is not to be expected that the value of rubber estates will permanently remain at the high rate of £200 per acre and over, but owing to the high prices in the forward positions, the profit will easily be much more than 1s per pound, and even at £200 per acre an estate can be written off to nothing in four or five years provided it has a good standard of production.

Prevailing prices are around 4s 7½d per pound and for future delivery are: 1926, 4s 1d; 1927, 3s 1d; 1928, 2s 6d, or an average of almost 3s 3d per pound. A company producing 400 pounds per acre at an all-in cost of 9d per pound can, therefore, secure an average profit of £50 per acre for three years, which on a market capitalization of £200 per acre is equivalent to 25 per cent. A shortage is expected over 1929-1931 owing to the slight amount of planting in 1921-1924, but if rubber for the period 1929-1931 should realize only 1s 9d per pound with all-in costs at 9d per pound companies with a market capitalization of £200 per acre would still be earning 10 per cent.

### Twenty Million Motor Vehicles

The annual statistical review of the automotive industry compiled by The B. F. Goodrich Rubber Co., Akron, Ohio, gives a total for 1925 of 20,229,025 motor cars and trucks registered in the United States. This is an increase of 2,331,416, or 13 per cent, over 1924 when 17,897,609 vehicles were in operation. It can safely be said that approximately 10 per cent of the country's population became new motorists during 1925.

Increases in the number of cars in use were made in every state in the Union during 1925, except the District of Columbia. The industry produced and sold during the year approximately 4,200,000 cars and trucks. This is the greatest number of cars and trucks ever produced and sold in any one year. Today there is a motor vehicle for every five people in the country.

There are now six states having over 1,000,000 cars. New York is still the leader with 1,637,670, a gain of 216,417 over 1924, California is in second place, with 1,443,985, a gain of 122,505. Pennsylvania passed Ohio and has taken third place with 1,367,092 cars and trucks registered. Ohio is fourth with 1,300,000; Illinois fifth with 1,267,400; and Michigan, the new state to pass the million mark, shows a registration of 1,006,371. The combined registrations of these six states, with is 8,022,518, is greater than the registrations of the entire United States as recently as 1919. These six states have three times as many cars as the balance of the world excluding the United States.

The largest percentage gain in any state was made by Florida—49.1 per cent. Corresponding increases were shown by other southern states, Mississippi having a gain of 31.3 per cent and Alabama 23.9 per cent. The smallest percentage gain was in Maryland where there are 3.7 per cent more cars than in 1924. A decrease in registrations is shown in the District of Columbia, but this merely reflects the elimination of non-resident registrations.

During the past year the number of people in the country for each car has been reduced from 6 to 5. In the state of California there is now 1 car for every 2.4 persons, and in Florida 1 for every 2.8 persons. The fewest cars per capita are found in Alabama, where there is 1 car for every 12 persons. The general average, however, of 1 car for every 5 people signifies that within the next year, if not before, there will be an average of 1 car for every family in the United States.

During 1925 there were 4,200,000 new cars and trucks produced. Deducting from this figure the increase in registrations in 1925 of 2,331,416, we find that the remainder, 1,868,584, gives the approximate number of cars that were discarded during the last twelve months. These statistics show that the average life of a car is between seven and eight years, and are significant of the fact that present day motor vehicles are built to a very high standard of quality.

The automotive industry remains first in rank among all business enterprises, based on the value of its finished products. In excise taxes alone this industry has paid \$800,000,000 during the past seven years.

Ninety per cent of the world's cars are made in the United States. There is every indication that 1926 will be equally as prosperous a year for the industry as has been 1925.

Rapid developments in bus transportation have greatly increased the usefulness of the motor vehicle, and some idea of the extent to which motor cars are used can be gained through the estimated gasoline consumption during 1925 of 10,000,000,000 gallons.

### INCREASING EXPORTS OF MECHANICAL RUBBER GOODS

American exports of rubber belting, hose, and packing continue steadily to increase, the total values for the first ten months of 1925 being respectively \$2,023,344, \$1,770,703, and \$713,796. These compare favorably with the corresponding figures for the entire year 1922 of \$1,268,235, \$1,340,244, and \$546,115.



## News of the American Rubber Trade

### Rubber Industry Outlook

**T**HE present outlook is characterized by stability in the basic lines of industry and commerce. In the past year the rubber industry made a high record in the production of tires and tubes and the output in other rubber goods lines was relatively large. The growth of the automobile and tire industries in 1926 promises to equal or exceed that of the year just past. The chief factors promoting this growth are the rapidly increasing number of bus lines and the popularity of balloon tires.

The principal factor affecting this prospect unfavorably is the shortage and consequent high price of crude rubber. The necessity of successive tire price advances the past year has aroused widespread interest in the excess cost of crude rubber as a tax on millions of motorists the world over. Relief from this burden is the pressing problem of the rubber and automobile industries to insure their continued expansion.

Protests by American rubber manufacturers against the continuance of the restriction of British rubber plantation production have been ineffectual in securing relief. The situation took on an acute phase in recent weeks when the larger tire companies began to feel sharply the effects of high priced rubber and it was generally realized that relief must come through extensive new plantations. Early in January steps were taken to effect ultimate relief of the crude rubber situation by the capitalization of two rubber planting projects, one by the American rubber manufacturers and the other by the automobile manufacturers. The first has the endorsement of the Rubber Association of America and the second that of the National Automobile Chamber of Commerce.

The wisdom of this course on the part of America has been strenuously urged by Secretary Hoover and is heartily endorsed by both the great industries dependent on rubber. These American enterprises will notably reinforce that begun in Africa last year and the recently enlarged plantations owned by American capital in the Far East. Thus a permanent solution will be forthcoming for securing rubber in unrestricted supply at fair prices.

Official reports of automobile production in 1925 place the motor vehicle output at 3,817,638 passenger cars and 496,998 trucks. The output of tires was 55,750,000. The total sales of all rubber products is estimated at \$1,250,000,000. The tonnage increase in consumption of crude and reclaimed rubber is expected to be 25 per cent over that of last year.

The general business outlook is characterized by stability in the basic lines of commerce and industry. The governor of the Philadelphia Reserve Bank, however, has lately pointed out that the \$5,000,000,000 business of 1925 was borrowed from that of 1926 by the popularity of the deferred payment plan of merchandising. There is a certain element of risk involved in the system which would bring serious consequences in case of general failure of the people to meet the payment of their obligations. The automobile industry, and incidentally the tire industry, are among those assuming this risk. This suggests care in financing which has been duly cautioned by a leading rubber manufacturer who points out the need of ample capital for meeting the cost of materials and equipment and handling the credit extensions to purchasers.

SEPTEMBER IMPORTS BY THE UNITED STATES OF CRUDE RUBBER were somewhat smaller in amount than those of September, 1924, the figures being respectively 59,061,732 pounds and 59,927,918 pounds. The value however for September, 1925, was \$36,686,013, almost trebling that of September, 1924, or \$12,393,978. Figures for October, 1925, rose to 77,617,160 pounds of crude rubber, value \$50,027,338.

### Financial

#### The Fisk Rubber Co.

The Fisk Rubber Co., Chicopee Falls, Massachusetts, last month offered \$10,000,000, 5-year 5½ per cent sinking fund gold notes, due February 1, 1931, at 98¼ and interest to yield over 5.90 per cent. Proceeds will provide the company with additional working capital to meet present costs of crude rubber and for other purposes. The Fisk company is one of the five largest manufacturers of pneumatic and solid tires, with capacity of 30,000 casings and 50,000 tubes per day. In addition the company has fabric plants in Connecticut and Rhode Island.

After giving effect to this financing, the consolidated balance sheet of the company and its subsidiary selling companies as of October 31, 1925, shows net tangible assets of over \$49,000,000. After deducting current liabilities of \$3,215,000 the company had net current assets of over \$37,000,000. For the year ended last October 31, the company reports net sales of approximately \$75,000,000. Net income after all charges available for interest on funded debt and federal income taxes was over \$8,000,000. After interest on the company's first mortgage bonds there was left a balance of \$7,458,000 available for interest on these notes, for whose service maximum annual interest requirements amount to only \$550,000.

#### General Tire & Rubber Co.

The General Tire & Rubber Co., Akron, Ohio, reports for the year ended November 30, 1925, net income of \$1,843,299, after charges, equivalent after preferred dividends to \$44.35 a share on the 39,908 shares of common stock outstanding, as compared with \$1,465,810, or \$34.89 a share on the common stock in the preceding year.

The income account for the year compares as follows:

	1925	1924	1923
Sales .....	\$18,700,000	\$13,784,000	\$9,000,000
Net income .....	1,843,299	1,465,810	1,200,000
P. & L. surplus .....	3,193,539	1,878,766	876,152

The company having completed one of the most satisfactory years in its history with a sales volume of 18,700,000 has set \$25,000,000 as the sales goal for which it will aim in 1926.

#### Goodrich Notes Oversubscribed

Public offering was made last month by The B. F. Goodrich Co., Akron, Ohio, of \$15,000,000 5 per cent serial gold notes, to mature \$5,000,000 each on January 15, 1927 to 1929, inclusive. The offering has been authorized as a direct result of the advancing price of crude rubber. Proceeds will be used to increase working capital. The notes are priced to yield 5, 5.25 and 5.50 per cent depending on maturity. The company's balance sheet as of September 30, after giving effect to the issuance of the present notes, shows current assets of \$73,923,309, including \$22,291,819 cash, as compared with current liabilities of \$9,354,693, a ratio of nearly 8 to 1.

#### Intercontinental Reorganized

The Intercontinental Rubber Co., Jersey City, New Jersey, and its subsidiary, Intercontinental Rubber Products Co., will be reorganized under plans which have been approved by stockholders. Intercontinental Rubber Co. will be dissolved and its assets distributed in the form of cash and stock of the products corporation. Application will be made to list the new stock on the New York Stock Exchange. Intercontinental's profits in 1925 from Mexican and

Sumatra operations after all charges, except Federal taxes, approximated \$1,000,000.

### The Hood Rubber Co.

Hood Rubber Co., Watertown, Massachusetts, estimates sales for the year ending March 31 next, at \$40,000,000 as against \$29,000,000 for 1924-25. Profits are expected to show close to \$20 a share on the 120,000 common stock outstanding, compared with \$6.82 last year. The company balance sheet is said to make a strong showing, with working capital at a new high peak and normal inventory. The company has notified preferred stockholders of a proposed change whereby new 7½ per cent stock will be issued in exchange for the present outstanding 7 per cent stock. The new stock provisions are to be modified by eliminating the sinking fund requirements, whereby \$150,000 stock has to be retired annually. Another change will eliminate the necessity of securing the consent of 75 per cent of the preferred stock for the issue of any bonds or notes running more than one year. These changes, it is expected, will give the directors a wide latitude in financing the company's requirements from time to time and thus facilitate the transaction of the company's business.

The company is conservatively capitalized, and in the year 1924-25 turned its plant investment over 4.08 times, and its capital 1.56 times. Analysis of condition at the close of the last fiscal year was as follows:

Capital Stock and Bonds	Plant Fixed Investments	Sales	Profits	Capital Turn-over	Inv. Turn-over
Preferred, 7½% \$6,820,000	\$6,612,000	\$29,096,635	\$1,457,000*	1.56	4.08
Common ..... 6,000,000					
Funded debt... 6,000,000					

\* Estimated.

### Akron Rubber Stock Quotations

Quotations of January 22, supplied by Otis & Co., Cleveland, Ohio.

COMPANY	Last Sale	Bid	Asked
Falls com.....	18	8½	
Falls pfd.....	120		124
Firestone com.....	101	101	
Firestone 6% pfd.....	99½	99½	99¾
General com.....	375		400
General 7% pfd.....	105	105½	
Goodrich com.....	61	60¾	61½
Goodrich pfd.....	96½	96	98
Goodrich 6½% deb. (8s.).....	105½	105½	105¾
Goodyear com.....	35¼	35¾	35¾
Goodyear 7% pfd.....	103½	103	106
Goodyear pr. pfd.....	103½	103	106
Goodyear 1st mtge. (8s.).....	121¼	121¼	122
Goodyear deb. (8s.).....	110¾	110¾	110¾
India com.....	150		160
India 7% pfd.....	98	97	101
Mason com.....	17½	17½	17½
Mason 7% pfd.....	13	12	13½
Miller com.....	37½	37	38½
Miller 8% pfd.....	102½	102	103
Mohawk com.....	80		85
Mohawk 7% pfd.....	80		77
Rubber Products.....	4¾	4	7
Seiberling com.....	27	26½	27
Seiberling 8% pfd.....	95	95	96
Star com.....	11	10	
Star 8% pfd.....	35	30	50

### New York Stock Exchange Quotations

JANUARY 20, 1926

	High	Low	Last
Ajax Rubber, com.....	10	9¾	9¾
Fisk Rubber, com.....	24¼	23¾	24¼
Fisk Rubber, 1st pfd. 5% d. (7).....	113	111¼	113
Goodrich, B. F. Co. (4) com.....	61¾	60¾	61¾
Goodrich, B. F. Co. (7) pfd.....	98	98	98
Goodyear Tire & Rubber pfd. (7).....	104	103¼	103¼
Kelly-Springfield Tire, com.....	17¾	17½	17¾
Keystone Tire & Rubber, com.....	2	1¾	2
Norwalk Tire & Rubber com. (1.60).....	13¼	13½	13½
United States Rubber, com.....	86¾	83¼	86¾
United States Rubber, 1st pfd. (8) x-div.....	107¾	107¾	107¾

### Dividends Declared

COMPANY	Stock	Rate	Payable	Stock of Record
Falls Rubber Co.....	Pfd.	\$0.50	Feb. 1	Jan. 25
Fisk Rubber Co.....	1st Pfd.	\$1.75 q.	Feb. 1	Jan. 20
Fisk Rubber Co.....	1st pfd. and 2nd con.	\$1.75 q.	May 1	Apr. 15
General Tire & Rubber.....		\$1.00 q.	Feb. 1	Jan. 20
Giant Tire & Rubber Co.....	Com.	\$0.50	Feb. 1	Jan. 20
Goodrich, B. F. Co.....	Pfd.	\$1.00 q.	Mar. 1	Feb. 15
Goodrich, B. F. Co.....	Pfd.	\$1.75 q.	Apr. 1	Mar. 15
Goodrich, B. F. Co.....	Pfd.	\$1.75 q.	July 1	June 15
Goodyear Tire & Rubber Co. of California.....	Com.	1¾ q.	Jan. 2	Dec. 24
Goodyear Tire & Rubber Co. of California.....	Com. def.	1¾ q.	Jan. 2	Dec. 24
Hood Rubber Co.....	Pfd.	\$1.75 q.	Feb. 1	Jan. 9
Manhattan Rubber Mfg. Co.....		\$0.62½	Jan. 30	Jan. 21
Miller Rubber Co.....	(new)	\$0.50 q.	Jan. 25	Jan. 5
Seiberling Rubber Co.....	8% pfd.	\$4.00		
Servus Rubber Co.....	Com.	3%	Jan. 15	Dec. 15
United States Rubber Co.....	1st Pfd.	2% q.	Feb. 15	Jan. 20

### New Incorporations

**AUTO PARTS COMPANY, INC.**, October 26, 1925 (New Jersey), capital stock \$125,000, divided into 1,250 shares of the par value of \$100 each. Incorporators: Benjamin Krug and Katherine Krug, both of 818 South 19th street; Morris Krug, 816 South 19th street, all of Newark, New Jersey. Principal office, 20 Clinton street, Newark, New Jersey. To deal in automobiles and their accessories.

**PHILIP BALEN, INC.**, January 14, 1926 (New York), capital \$10,000. Incorporators: Philip Balen and Sophia Balen, both of Sag Harbor, New York, and Herman Balen, 1410 Wilkins avenue, Bronx, New York. Principal office, Sag Harbor, New York. To manufacture auto tires, etc.

**E. A. BARBOUR AGENCY, INC.**, December 1, 1925 (New York), capital 500 shares, no par value. Incorporators: B. W. Smith, 165 Broadway, Henry James and N. C. Andrews, all of New York City. Principal office, Manhattan, New York. To manufacture rubber goods.

**C. AND R. PLANTATIONS CORPORATION**, January 13, 1926 (New York), capital \$35,000. Incorporators: B. E. Smith, Bedford Hills, and A. J. Ewald, White Plains, both of New York; and C. I. Shannon, Arrott Blvd., Pittsburgh, Pennsylvania. Principal office, Manhattan, New York. To make rubber boots, shoes, etc.

**CHICAGO TIRE PATCH CO., INC.**, January 9, 1926 (Delaware), capital stock of 5,000 shares without nominal or par value. Incorporators: Julius M. Kahn, 5469 Ingleside avenue; Austin H. Smith, 208 South La Salle street; A. E. Goodrich, 5537 Indiana avenue, all of Chicago, Illinois. Principal office with the Prentice Hall, Inc., Dover, Delaware. To manufacture, buy, sell and deal in tires for automobiles and vehicles of all kinds.

**CONSUMERS RUBBER REFINING COMPANY, INC.**, December 22, 1925 (New York), capital \$50,000. Incorporators: H. M. Hart, 21 Baldwin avenue, Jersey City, New Jersey; J. E. Cross, 326 78th street, Brooklyn, New York; and Bessie Lee, 600 W. 157th street, New York City. Principal office, Manhattan, New York. To manufacture crude rubber and products.

**CORLISS ANDERSON TIRE CORPORATION, INC.**, January 20, 1926 (New York), capital \$1,000,000. Incorporators: Hiram C. Anderson, 2461 Frisby avenue, Albert F. Altman, 3321 Perry avenue, both of Bronx, New York; and James H. Marsh, 543 West 123rd street, New York City. Principal office, Manhattan, New York. To manufacture tires.

**CRUDE RUBBER CORPORATION OF AMERICA, INC.**, January 12, 1926 (Delaware), capital stock of \$2,000,000 preferred par value \$100 and 40,000 shares common stock without nominal or par value. Incorporators: T. L. Croteau, A. L. Miller, and Alfred Jervis, all of Wilmington, Delaware. To purchase or acquire and to plant, maintain, work, use, sell or dispose of rubber or caoutchouc plantations. Also to deal in rubber, caoutchouc, gutta-percha, chicle gums, substances and materials derived therefrom.

**F. W. DUNBAR & COMPANY, INC.**, January 7, 1926 (New York), capital \$100,000. Incorporators: Frederick W. Dunbar, E. G. Mundy and Morris Baranell, all of 7 Water street, New York City. Principal office, Manhattan, New York. To manufacture rubber.

**HARLEM TIRE SHOP, INC.**, January 21, 1926 (New York), capital \$10,000. Incorporators: Charles Miller, 938 Morris Park avenue, Solomon Arce, 954 Prospect avenue, both of Bronx, New York and Percy Freedman, 9 West 116th street, New York City. Principal office, Manhattan, New York. To manufacture tires.

**HENDERSON TIRE RECLAIMING COMPANY, INC.**, December 2, 1925 (Delaware), capital stock of \$100,000 par value \$10. Incorporators: William C. Henderson, George B. Waters and Annie F. Henderson, all of Brooklyn, New York. Principal office, 1600 Delaware avenue, Wilmington, Delaware. To reclaim, manufacture and sell automobile and other kinds of tires and rubber goods of all kinds.

**JOE'S TIRE SHOP, INC.**, January 7, 1926 (New Jersey), capital stock 2,500 shares without par value. Incorporators: Joseph S. Papier, 752 Edgewood avenue; Philip B. Papier, 16 Colonial avenue, and Elizabeth Closson, 21 Hayes avenue, all of Trenton, New Jersey. Principal office, 1202 Broad street, Bank Building, Trenton, New Jersey. To deal in automobile accessories, etc.

**LIVE LEATHER PRODUCTS CO., INC.**, December 12, 1925 (Massachusetts), capital \$100,000 preferred stock and 1,000 shares of common stock without par value. Incorporators Edmund O'Callaghan, 209 Washington street, Boston, Massachusetts; Walter C. Mitchell, Cambridge, Massachusetts; Elizabeth Barrett, 12 Cedar street, Lynn, Massachusetts. Principal office, Wadsworth street, Cambridge, Massachusetts. To manufacture and deal in rubber products such as garters, suspenders, belts for wearing apparel, etc.

**ONEONTA TIRE & AUTO PARTS, INC.**, December 8, 1925 (New York), capital \$10,000. Incorporators: S. M. Alexander, 1630 West street; Benjamin Krohn, 1657 West street; Anna Krohn, 510 State street, all of Utica, New York. Principal office, Utica, New York. To deal in tires.

**PARAMOUNT RUBBER CO. OF NEW JERSEY, INC.**, January 7, 1926 (New Jersey), capital 5,000 shares of preferred stock of the par value of \$100 each, and 15,000 shares common stock without par. Incorporators: Jack A. Roberts, Hotel Gramatan, Bronxville; Fred T. Roberts, Colonial Heights,

Yonkers; Fred Dooley, 67 W. Ridgewood avenue, Ridgewood, all of New York. Principal office 140 Market street, Paterson, New Jersey. To manufacture rubber wares and merchandise, especially rubber toys, balls, etc.

**PEAK TIRE COMPANY, INC.**, December 5, 1915 (New York), capital 25 shares no par value. Incorporators: Saul Kaplan, 1617 Nelson avenue, Bronx; Louis Ginsburg, 24 First Place, Brooklyn; H. H. Feigin, 261 Broadway, all of New York, New York. Principal office, Brooklyn, New York. To deal in tires and rubber goods.

**POLLARD-GENERAL CO., INC.**, December 29, 1925 (New York), capital \$50,000. Incorporators: H. C. Lonergan, Benjamin D. Reisman and A. G. Weinberg, all of 216 Erie Company Bank Building, Buffalo, New York. Principal office, Main and Summer streets, Buffalo, New York. To deal in tires.

**THE SEMPLE-LEE PROCESSES, INC.**, December 17, 1925 (Delaware), capital 1,500 shares without nominal or par value. Incorporators: F. R. Hansell, and J. Vernon Pimm, both of Philadelphia, Pennsylvania; E. M. MacFarland, Camden, New Jersey. Principal office, 927 Market street, Wilmington, Delaware. To manufacture, buy, sell, trade and deal in automobile accessories, tires and tubes.

**SHELTON ARCH MILLS, INC.**, January 6, 1926 (New York), capital \$5,000. Incorporators: Helen Cotter, 212 E. 90th street; Mates Deixler, 1879 Crotona avenue; Aaron Lipper, 830 Stebbens avenue; Charles A. Loreto, 1640 Melville street; Betty M. Marx, 222 Parkside avenue, all of New York City, New York. Principal office, Manhattan, New York. To manufacture and deal in elastic fabrics, novelties, etc.

**STANDARD TRUCK TIRE CO. OF LONG ISLAND CITY, INC.**, January 22, 1926 (New York), capital \$20,000. Incorporators: Della Lieberman, 247 Vermont street; Betty Kolden, 209 Lexington avenue; Raymond Gitlin, 543 Hopkinson avenue, all of Brooklyn, New York. Principal office, Queens, New York. To deal in autos, etc.

**TRUCK TIRE SALVAGE CORPORATION, INC.**, December 30, 1925 (New Jersey), capital stock \$125,000. Incorporators: Louis Schiavone, 32 Park avenue, Caldwell; Michael V. Bonomo, 1 Ardsley Road, Glen Ridge; Richard V. Bonomo, 17 Euclid Place, Montclair, all of New Jersey. Principal office, Jersey Avenue Yard, Central Railroad Company of New Jersey, Jersey City, New Jersey. To buy, sell and deal in rubber and scrap rubber.

**THE ULTIMATE TIRE & RUBBER CORPORATION, INC.**, December 11, 1925 (Rhode Island), capital \$10,000 common stock. Incorporators: John D. Cranston, M. L. M. Cranston and Arthur B. Plon. Principal office, Rhode Island. To manufacture, buy, sell and deal in tires and accessories.

**W. A. VAN BUSKIRK & COMPANY, INC.**, December 17, 1925 (New York), capital 150 shares par value \$100, 100 shares no par value. Incorporators: W. A. Van Buskirk, 340 St. Johns Place, Brooklyn, New York; J. W. Van Buskirk, Maude Van Buskirk, both of 8-10 Bridge street, New York, New York. Principal office, Brooklyn, New York. To manufacture auto tires, motors, etc.

**VULCAN TIRE COMPANY, INC.**, December 28, 1925 (Delaware), capital \$10,000 par value \$100. Incorporators: S. L. Mackey, L. C. Christy and H. Kennedy, all of Wilmington, Delaware. Principal office, 901 Market street, Wilmington, Delaware. To buy, sell, manufacture and repair automobile and truck tires and sell automobile supplies.

## The Rubber Trade in the East and South

Seven years ago the capital of the Baird Rubber & Trading Co., 233 Broadway, New York, N. Y., well-known crude rubber importers, amounted to only \$100,000, this figure being raised three years later to \$500,000. A year ago the capitalization was again advanced to \$1,000,000, and under new financing the amount is now \$2,000,000. W. T. Baird is president and treasurer of the company.

The Grasselli Chemical Co., 347 Madison avenue, New York, N. Y., has been appointed agent for the selling and placing of rights and licenses to manufacture under the Peachey Process, United States Patent No. 1,487,880. H. H. Replogle is sales manager of the Grasselli organization, and in charge of the rubber service department.

Sweeney & Barros, 24-26 Stone street, New York, N. Y., importers and exporters, announce the opening of a department for the purpose of handling crude rubber.

The ultra-accelerators, tuads, zimate and supersulphur, products of the R. T. Vanderbilt Co., 50 East 42nd street, New York, N. Y., are now produced both in Lincoln, New Jersey, the original plant, and in New York. The output of a second plant was needed to meet the increased demand for these materials.

J. L. Stauffer, for many years connected with The B. F. Goodrich Rubber Co., Akron, Ohio, will represent that organization by carrying in western New York its line of Hi-Press footwear.

A change of name to the Lake Erie Engineering Corporation, 268 Perry street, Buffalo, New York, is announced by the concern formerly carrying on business as the Buffalo Machine & Iron Corporation. Products in which the organization specializes include pumping engine, hydraulic presses and equipment adapted to the rubber industry. J. T. Dillon heads the company.

Edward E. Allen & Son announce the opening of offices at Erie, Pennsylvania, and Akron, Ohio, for the designing of rubber working machinery. The organization is now affiliated with the Williams Foundry & Machine Co. of Akron, and will manufacture its equipment as well as giving special attention to the production of a complete line of tubing, straining and insulating machinery.

A two-story building to contain approximately 35,000 square feet, and to be used for storage and warehouse purposes, will be erected by The Raybestos Co., Bridgeport, Connecticut, manufacturer of clutch facings, brake linings, etc. With the completion of the new structure the company will be able to concentrate its stock under one roof.

L. J. Waldron, who for nearly eleven years has been associated with the Pennsylvania Rubber Company of America, Inc., Jeanette, Pennsylvania, has been appointed sales manager of that organization, succeeding H. M. Strachan. For the past eight years Mr. Waldron has been in charge of the company's Boston branch, while during the past year he had been advanced to the position of district manager for the entire Northeastern territory, including all branches as far west as Chicago.

The Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pennsylvania, has organized a prime mover sales department which will be established at the company's South Philadelphia works. Howell Van Blarcom will be manager of this new department, while the personnel will also include: R. E. Carothers, A. H. Ganshird, C. G. Ong, and P. L. Fetzter.

The McCreary Tire & Rubber Co., Indiana, Pennsylvania, reports that sales during the year 1925 were considerably greater than for 1924; the number of salesmen has been considerably increased; and during the past year one of the factory departments has been enlarged. The organization, now in its eleventh year of operation, is headed by the following executives: Harry McCreary, president and treasurer; R. W. McCreary, factory manager and chemist; H. C. McCreary, sales manager; and Robert S. George, secretary in charge of dealer relations.

Peak production is being maintained by the DeLion Tire & Rubber Corporation, Highlandtown Station, Baltimore, Maryland, while the past year is said to have been the most profitable one in the company's history, with the number of customers increased by 60 per cent. Recent installations of new equipment have resulted in a doubling of the plant capacity. Earl E. Harrington is vice-president.

## The Rubber Exchange of New York

Members of the Rubber Exchange of New York, Inc., met at the exchange, 31 South William street, New York, N. Y., and ratified amendments to the by-laws increasing the regular membership to 250. In addition to these there are five charter members which makes the limit of memberships 255.

Fifty-one of the eighty members of the Rubber Trade Association of New York have purchased seats which place the seal of approval of the rubber trade upon the new exchange. In all, the exchange, which will open for trading early next month has 215 members in addition to a number of applications which have not yet been acted upon. The list includes 88 rubber dealers and brokers, 91 commodity brokers and commission house men and 36 foreign members many of whom are rubber dealers or brokers. The clearing house which will be operated in connection with the new exchange will be ready to function simultaneously with the exchange early in February. Walter Dutton is secretary.



## President of the Rubber Association of America

Joseph Clark Weston, recently elected president of the Rubber Association of America, has for more than thirty years been identified with the rubber industry, where he has occupied positions of much responsibility and importance.



J. C. Weston

A native of Kalamazoo, Michigan, he began his connection with the rubber business in 1896 as a salesman for Morgan & Wright, soon being advanced to the position of manager of sales, and later becoming secretary of the organization. When in 1911 his concern, with three others, consolidated to form the United States Tire Co., Mr. Weston was appointed as the new organization's western district manager, and in 1912 central district manager. Further advances included an appointment as director of sales, followed by that of vice-president.

In July, 1919, Mr. Weston severed his connections with the United States Tire Co., becoming vice-president of the Ajax Rubber Co. Elected in 1921 president and general manager of the latter organization, he became also in September, 1922, president of one of that company's subsidiaries, the Racine Rubber Co., Racine, Wisconsin, while in February, 1924, he was made chairman of the Ajax board of directors.

Mr. Weston has made his presence felt in the Rubber Association, where he has served on the executive committee of the Tire Manufacturers Division, and also as a member of the Association's board of directors. Connected with several Masonic organizations, Mr. Weston is also a member of some of the leading Detroit and New York City clubs.

## The Rubber Trade in New Jersey

New Jersey rubber manufacturers are holding their own at this season of the year and the majority report business as being very good. Mechanical goods, including brake linings, clutch facing, packing, belting, molded and suction hose and also druggists' sundries are now being turned out for spring delivery. Hard rubber manufacturers report that business has fallen off a little, a condition that is usual at this time of the year. Manufacturers have not as yet felt any shortage in crude rubber and expect that supplies will be ample for present and future requirements.

The Rubber Manufacturers' Association of New Jersey will hold its mid-winter meeting early in February at the Stacy-Trent Hotel, Trenton, New Jersey. Dinner will be served and general conditions discussed.

On January 9 a portion of the plant of the Essex Rubber Company, Trenton, New Jersey, was damaged by fire resulting in a loss of nearly \$200,000. Clifford H. Oakley, president of the company, announced that production will not be interfered with and that the building will be rebuilt on the same spot. The loss was covered by insurance. Firemen saved the company's new \$50,000 storehouse.

The Pocono Rubber Cloth Co., Trenton, New Jersey, is experiencing a very busy season and is working on orders for automobile material for spring delivery. The company has enjoyed a very prosperous year and was compelled to branch out and seek additional quarters a few months ago.

Fire recently destroyed the storehouse of the Trenton Scrap Rubber Co., Trenton, New Jersey, and consumed about \$20,000 worth of rubber. This concern is owned by the Fineburg Auto Tire & Accessories Co.

The Luzerne Rubber Co., Trenton, New Jersey, reports that business is fairly good and that production equalled that of January a year ago.

The Ajax Rubber Co., Combination Rubber Co., and the Hamilton Rubber Manufacturing Co., all of Trenton, New Jersey, report mid-winter business as being very good.

Employees of the Thermoid Rubber Co., Trenton, New Jersey, held their annual dinner at Hillwood Lakes, Trenton. Ninety employees of the company were present.

Bruce Bedford, president of the Luzerne Rubber Co., Trenton, New Jersey, has been elected president of the Trenton Chamber of Commerce.

Robert J. Stokes, secretary of the Thermoid Rubber Co., Trenton, New Jersey, has been spending some time with his family at Atlantic City, New Jersey.

The Murray Rubber Co., Trenton, New Jersey, is not only running twenty-four hours a day in the tire and tube departments, but the mechanical departments are also operating to capacity.

J. B. Bleiler, director of sales for the Braender Rubber & Tire Co., Inc., Rutherford, New Jersey, has recently returned from a trip to the Pacific Coast, where he has been instrumental in establishing some important distributing stations. Mr. Bleiler reports an excellent business outlook for 1926. C. N. Uhl who is well known in tire circles is in charge of motor bus and cab tire sales of the company.

James O. Smith, of Freehold, New Jersey, who has been selling rubber athletic goods for the New York branch of the United States Rubber Co., is now handling composition rubber soles and heels in the eastern Pennsylvania mining region, Delaware and New Jersey.

The Lambertville Rubber Co., Lambertville, New Jersey, has adopted a plan whereby employees who have been with the concern for more than three months will secure life insurance at a minimum cost. The company will pay half the premium in initial amounts and will give increased amounts based on the length of employment without cost to workers. A new mill unit composed of two refiners, three batching mills and one grinder is to be installed. These will be electrically operated by a 400 horse power synchronous motor. The company is also engaged in reclaiming rubber.

F. W. Servis, general sales manager of the Combination Rubber Co., Trenton, New Jersey, spent some time with his family in Florida last month.

George R. Cook, president of the Hamilton Rubber Manufacturing Co., and the Acme Rubber Manufacturing Co. and the Combination Rubber Co., Trenton, New Jersey, is reported seriously ill at his winter home at Camden, South Carolina.

Public sale of the Globe Rubber Tire Manufacturing Co.'s assets, scheduled for January 20 at Trenton, New Jersey, was postponed until February 3. The proposed sale involves a Chancery Court action brought by the Mechanics National Bank, Trenton, as trustee and complainant, against the firm to satisfy a claim of approximately \$186,510.64 and costs. The company has not been operating for some time.

Paramount Rubber Consolidated has taken over the F. A. Cigol plant at Paterson, New Jersey, where rubber balls will be made by a new company known as Paramount Rubber Co., of New Jersey.

The Murray Rubber Co., Trenton, New Jersey, has recently placed orders for twenty additional units of the Book-Type vulcanizing mold. This type of mold, which was first offered the trade last summer, is for the individual curing of tires. It is easily operated and the satisfactory results from its use have brought numerous repeat orders.

### Receiver for United & Globe

Henry Welling, Trenton, New Jersey, has been named receiver for the United & Globe Rubber Co., Trenton, N. J., by Federal Judge Clark of the United States District Court. The application for receivership was made by Henry H. D. Lewis, of New York, a stockholder of the company. The assets of the company are: equipment valued at \$750,000; merchandise on hand, \$45,000; and accounts receivable, \$50,000. The liabilities consist of a purchase money mortgage of \$200,000, with \$2,000 of unpaid interest, and \$70,500 in open accounts. The decree of the court gives the receiver the authority to operate the plant for a month, if advisable. The principal stockholder is Peter Vredenburg, of Freehold, New Jersey, who was president of the concern for a time.

### The Rubber Trade in Massachusetts

Production schedules of Massachusetts rubber factories have continued at peak levels into late January. While the weather in the immediate vicinity of Boston has not been at all propitious for rubber footwear, only two snowstorms having appeared on the scene, sales have attained surprising volume. The advance in prices of 10 to 15 per cent January 1st was an incentive for the dealers to stock early, and retail sales of light rubbers, low-priced four buckle, and automatic fastener gaiters have been large.

The factory schedules are being gradually increased on tennis shoes for next summer's business, and plant managers look for no abatement in production this spring. Reclaimers are operating at capacity with no let up in sight. The situation in tires is problematical; the price increases have naturally been heaviest on this class of merchandise, and inasmuch as sales to motorists are not heavy at this season anyway, dealers are not stocking up to any great extent. Due to the fact that no spring dating business was taken last fall, however, stocks are low, and when the spring motoring season gets under way, manufacturers are anticipating a heavy demand. For this reason there has been no let up in production. Mechanical goods manufacturers report an even volume of business, and the heel and sole business is better at this time than it has been for several years.

Tire distributors have been greatly interested in recent developments in the bus situation. The Middlesex and Boston Street Railway has finally come to an agreement with the city governments of the cities of Newton and Waltham and will replace all but the through trolley lines with complete bus service before the end of 1926. The company has already placed an order for a fleet of White buses pneumatic tire equipped throughout. Meanwhile the Boston Elevated Railway, whose system covers the city and many suburban towns, is extending its bus service rapidly, not only replacing trolley lines but adding service on routes heretofore not covered by public conveyances.

Bequests amounting to approximately \$160,000 to Malden institutions of which he was a member, trustee or founder, are contained in the will of Erskine M. Bickford, for many years superintendent of the Malden and Melrose factories of the Boston Rubber Shoe Co., recently filed in the Middlesex probate office, and which disposes of an estate believed to be worth \$400,000. The First Baptist Church of Malden receives about \$40,000, the fund to be named in memory of Julia L. Bickford, wife of the testator. Malden Hospital, of which Mr. Bickford was founder, receives about \$40,000. The Home for Aged Persons gets \$26,000, and an equal sum is left to the Industrial Aid Society of Malden. The Associated Charities of Malden will receive approximately \$13,000 and a like amount goes to the Malden Y.M.C.A. Joseph Wiggin of Malden, and Francis A. Shove, president of the Malden Savings Bank, are named executors.

L. J. Waldron, who has been Boston branch manager of the Pennsylvania Rubber Co. for five years, has recently been pro-

moted to the position of sales manager for the entire company and will make his headquarters at the company's home office, Jeannette, Pennsylvania.

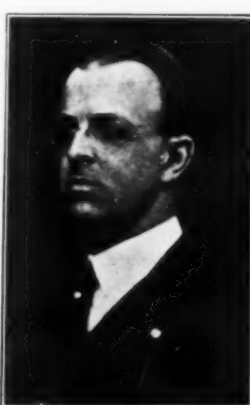
Frank T. Walle, an executive in the manufacturing division of the Converse Tire Co., Malden, Massachusetts, is manager of Malden Rubber Store, 300 Main street, Malden, where he will act as local distributor of Converse tires and a full line of rubber products.

Hoague-Sprague Corporation, Lynn, Massachusetts, largest shoe box manufacturers in the world, and subsidiary of the United Shoe Machinery Corporation, have recently acquired full title to the Hennessy Building, Broad street, Lynn, formerly occupied by the Hennessy, Maxwell Shoe Co. They will utilize the building to extend their manufacturing facilities of paper boxes, distributed to the rubber and leather shoe trade in this section.

The Converse Tire Co., Malden, Massachusetts, reports increases in its sales of casings, and also the establishment of a full line of low pressure, full balloon tires as well as heavy duty truck tires, in addition to its former lines of high pressure tires and tubes. The factory output of casings runs from 350 to 400 a day, while the schedule for inner tubes is between 1,500 and 2,000 daily. M. M. Converse is president.

### President of Kleistone Rubber Co., Inc.

Joseph Everett Stone, president and treasurer of the Kleistone Rubber Co., Inc., Warren, Rhode Island, was fifty years old on January 31, while for almost thirty years he has been closely associated with the rubber industry.



J. E. Stone

For fourteen years, as cashier and assistant treasurer, he was connected with the Hood Rubber Co., Watertown, Massachusetts. His knowledge of rubber footwear manufacture, gained while associated with the Hood organization, was still further increased in his later connection with the Plymouth Rubber Co., Canton, Massachusetts, where the leading products included proofed fabrics, artificial leather, and rubber heels. While with the Plymouth company Mr. Stone served in the capacity of treasurer and as one of the directors of the organization.

On August 15, 1920, Mr. Stone, associated with M. S. Klein, E. H. Bell, and Robert J. Holmes, organized the Kleistone Rubber Co., taking over at this time the former factory of the Lynn Rubber Co., at Warren, Rhode Island. Here rubber heels, sponge rubber heel cushions, and Lynco arch supports were successfully manufactured by the new company, which however also devoted much of its efforts to the production of rubber floor tiling, in which branch of the industry the Kleistone organization represents one of the pioneers.

Mr. Stone has a wide acquaintance in the rubber industry. He is a member of the Rubber Association of America, the Boston Chamber of Commerce, the Boston City Club, and is connected with several Masonic organizations as well as clubs in Boston, Marblehead, Lynn, Swampscott and Belmont.

AMERICAN EXPORTS TO MEXICO OF MECHANICAL RUBBER GOODS continue important, shipments of rubber belting for the first ten months of 1925 reaching a value of \$252,828; hose, \$217,465; and packing, \$58,894. Corresponding figures for the entire year 1922 were respectively \$178,622; \$234,443, and \$95,449.

## The Rubber Trade in Ohio

Ohio rubber factories have been steadily gaining in sales and production since the first of the year, following the moderate recession noted in November and December. While the largest increases at this time are being made in tire departments, footwear and mechanical goods are considerably ahead of last year.

Total tire production in the Akron district is in the neighborhood of 115,000 casings a day, compared with about 100,000 daily last month. Output probably will be increased to better than 125,000 tires daily next month.

While the abnormal cost of crude rubber is still proving a handicap to the manufacturers, a more optimistic feeling over the rubber situation is evident. There was fear late last year of an acute rubber shortage, which would force the industry to slow down, but this is passing.

Although last year was one of the best in the industry, Akron authorities point out that not one company fully earned 10 per cent profit on gross sales. Those who have reported substantial profits have done so by turning their capital over two or three times a year. The rubber companies have largely given the public the benefit of forward commitments on rubber, and they will have to take a loss in case of a slump.

Sales of rubber companies in Ohio increased more than 25 per cent over 1924, it is conservatively estimated. Production of inner tubes slumped in October, and fell below the figure of the year before, but the total tube output for the year was still well ahead of the previous year.

Spring dating orders are now being taken by some rubber companies, although an informal agreement was made to continue the ban on this practise for the remainder of the winter. An agreement was first made among leading tire producers last November, at the recommendation of the Rubber Association of America, to abolish spring dating until January 1, 1926. This was generally observed, in spirit as well as in letter, and resulted in good results for the industry as a whole.

Harvey S. Firestone, Jr., vice-president and general manager of the Firestone Steel Products Co., Akron, Ohio, and party are en route to Singapore, to inspect various Firestone branches in the Far East. Headquarters will be established in Singapore, where the company has a large washing and refining plant. Mr. Firestone and the engineers accompanying him plan to visit Malaya, Java, Borneo and Sumatra. Seven additional purchasing offices have been established in the Far East, four in British and three in Dutch territory. Mr. Firestone will be accompanied by his wife and Mr. and Mrs. C. A. Myers, Mr. and Mrs. W. T. Runals, and M. A. Cheek, all of Akron.

The Miller Rubber Co., Akron, Ohio, has started work on a \$100,000 rubber reclaiming plant in Kenmore, Ohio. It is to be completed in about three months and is designed to furnish most of the reclaimed requirements of the company.

The Philadelphia Rubber Works Co., Akron, Ohio, which operates the largest reclaiming plant in the Akron district, has spent about \$200,000 for additions and new equipment.

President Jacob Pfeiffer, of the Miller Rubber Co., Akron, Ohio, announces that employees will be given an opportunity to subscribe to term insurance at a maximum rate of 50 cents for each \$1,000. Women factory employees may take out \$1,000 and men, \$2,000. The difference between the 50 cent premium and the actual premium will be borne by the company.

The General Tire & Rubber Co., Akron, Ohio, is offering insurance and stock to workers on an attractive basis. Each employee desiring to subscribe for insurance will have a fixed amount of money deducted from his wages. This money, placed on interest, will in a period of years provide a paid up insurance policy without deducting from the face amount of the deposits. When the policy is paid up the total deposit will be returned.

The Goodyear Tire & Rubber Co., Akron, Ohio, has announced a 5 per cent bonus for its factory employees, payable each pay day to those having a regular attendance record.

Robert P. Hassler, manager of the hose manufacturing departments, of The B. F. Goodrich Co., Akron, Ohio, has resigned and will enter the commercial field in Akron.

E. F. Parker has been appointed western division sales manager of the Firestone Tire & Rubber Co., Akron, Ohio, with headquarters at Akron. Mr. Parker was previously identified with the Firestone company's New York City branch.

Installation of equipment which has increased plant capacity by about 40 per cent is reported by The Giant Tire & Rubber Co., Findlay, Ohio. The present capacity is about 1,400 tires and 2,000 tubes a day. The company's sales for the year ended October 31 showed a gain of 25 per cent with earnings more than double those of last year, while the November and December sales will be more than double those of a year ago. C. E. Hart is president.

The Wooster Rubber Co., Wooster, Ohio, is preparing plans for the construction of a new and modern type of factory. The organization specializes in the manufacture of Sunshine toy balloons and various rubber novelties.

A night and day schedule is being maintained in two of the departments of The Victor Rubber Products Co., Springfield, Ohio, where the main output includes automobile mats and radiator hose. H. H. Durr is general manager.

The Goodyear Tire & Rubber Co., Akron, Ohio, has purchased the Essex Cotton Mills, Passaic, New Jersey, which brings the company's fabric output to within 75 per cent of total requirements of Goodyear rubber factories in Akron and Canada. Cotton mills in California now produce practically all the fabric needed by the Goodyear plant in Los Angeles.

C. E. Bishop, formerly vice-president and factory manager of The Akron Rubber Reclaiming Co., Barberton, Ohio, has resigned his duties, and also those as a director of the organization. In the future he will carry on work as a consulting engineer. William Welch, vice-president and sales manager, will take over part of Mr. Bishop's former duties, while G. B. Wyatt now has charge of production, with the title of production superintendent. The company's plant is being increased to approximately three times its present size, the new constructions to be completed about May 1, 1926.

Extensive preparations were made by The Dayton Rubber Manufacturing Co., Dayton, Ohio, for its annual convention, which was held January 4, 5, and 6. Prospects for the year 1926 are most encouraging.

A. E. Verner is acting as manager of tire sales for the Kent Tire & Rubber Co., Kent, Ohio, a subsidiary organization of The Mason Tire & Rubber Co., also in Kent. The quality of the casings produced in these two plants is identical, the "Hylastic" cord used having been manufactured in the fabric mills maintained by the Mason organization. C. H. Williams is sales manager.

The Harshaw, Fuller & Goodwin Co., 545 Hanna Building, Cleveland, Ohio, specializing in chemicals and colors for the rubber trade, reports that the company is now acting as sales agent for "Diamond Brand" mica, the mills being located at Crabtree and Newdale, North Carolina. Stocks will be carried at both mills as well as at the agency's distributing points, Cleveland, Chicago, and Trenton, New Jersey.

## Activities of India Tire & Rubber Co.

The India Tire & Rubber Co., Akron, Ohio, has announced that, beginning January 4, the India Owls will participate in a radio entertainment, given every Monday and Friday evening for seventeen weeks. The broadcasting will be done from station WADC, Akron.



Donald J. Roder, formerly with the Michelin organization, has joined the sales forces of the India company, and will cover the territory around Syracuse.

M. G. Michaels, formerly associated with the Mason and Falls organizations, is now one of the India salesmen, working out of the New York branch.

### The Rubber Trade in the Midwest

Ray T. Johnson, the Chicago representative of Callaway Mills, 345 Madison avenue, New York, N. Y., is now located in the new Fabric Building, 325 South Franklin street, Chicago, Illinois.

The Gillette Rubber Co., Eau Claire, Wisconsin, is confining its attention entirely to the manufacture of pneumatic tires, inner tubes, and bicycle tires, and is running its plant at capacity. R. B. Gillette is vice-president.

As a representative of the M & M Manufacturing Co., 208 North Wabash avenue, Chicago, Illinois, J. A. H. Graham is now covering northern Illinois and eastern Iowa. Previous to his present connection, Mr. Graham served as one of the branch managers of the Lee Tire & Rubber Co., Conshohocken, Pennsylvania. The products of the M & M Manufacturing Co. include Belmore tires and tubes, baby cab tires, tire accessories, etc.

The H. B. Sherman Manufacturing Co., Battle Creek, Michigan, manufacturer of brass goods, many of which are used by the rubber industry, is erecting several new buildings and remodeling the entire plant. As a result the possibilities for production have been increased nearly 100 per cent while facilities for manufacturing and handling goods have been greatly improved. A. H. Warner, Jr., is vice-president.

The Kelly-Springfield Tire Co., 250 West 57th street, New York, N. Y., has opened a branch at 31 East Georgia street, Indianapolis, Indiana. Samuel Woolner, Jr., is president of the company.

Production at the plant of the International Rubber Company of America, Anderson, Indiana, now averages 600 tires a day. Among the recent changes in the personnel of the organization is the appointment of E. N. Hill as general manager.

Because of increasing business, the Bielfield Tire Co. moved on July 1, 1925, to larger quarters at 5724 Cass avenue, Detroit, Michigan. The company handles India tires exclusively.

### The Rubber Trade on the Pacific Coast

Pacific Coast rubber manufacturers have fairly accommodated themselves to conditions occasioned by higher price range for crude rubber, and little complaint is heard. The chief anxiety now seems to be about price stability. Banks, which have hitherto avoided rubber goods as collateral security, have lately made considerable loans on tires bought by jobbers and other dealers from coast and eastern manufacturers, much of the money being advanced for 90 days on the assumption that crude rubber prices will decline but little in that period and that the price of finished goods may even be advanced. At any rate the action of the banks has facilitated the marketing of many thousand dollars' worth of tires, a considerable part of such stock being held in warehouses pending payment of loans. Interest rates are in some cases as much as 10 per cent, but some dealers have made this up by anticipating price raises.

High prices for tires militate against sales, and here, as elsewhere, manufacturers' representatives find that they have to work harder to overcome the propaganda for rubber conservation. Makers of repair materials are reaping a harvest, and dealers in vulcanizers' equipment report a considerable increase in sales of retreading outfits. Tire users are plainly economizing.

To meet possibly keener competition from Eastern rivals in the near future, one coast factory is planning, it is said, to turn out in large quantities a popular sized tire that will have practically

no rubber in it, yet which, it is claimed, will show a high efficiency. Tests made thus far are said to justify the claim.

General trade conditions are very favorable to the rubber industry, leaders state. Money is easy, stocks generally low, failures few, weather very seasonable, population gain considerable, and labor troubles negligible.

The Pacific Coast branch managers of the United States Rubber Co., New York, N. Y., recently held a general conference in San Francisco, over which J. B. Brady, general manager of the Pacific Coast Division, presided. Those present included H. S. Allan, Fresno; J. A. Brogan, Seattle; O. M. Campbell, Sacramento; C. B. Cowgill, San Diego; J. M. Evans, Phoenix, Arizona; J. D. Ferris, Spokane, Washington; L. B. Hitchings, Seattle, Washington; J. B. Magee, Los Angeles, California; H. M. McIntyre, Butte, Montana; W. J. Roope, Portland, Oregon; and L. M. Simpson, Salt Lake City, Utah. Plans were outlined for a more intensified sales campaign for 1926, and much satisfaction expressed with the progress made in all the branches in 1925. A banquet and theater party followed the conference.

The Columbia Tire Corporation, Portland, Oregon, is meeting with much success. It is one of the few concerns which contracted at a moderate price range for all the crude rubber needed for 1926, even allowing for a considerable expansion in production. A large addition to the mechanical equipment has recently been made. Demand is said to be especially strong for the new line of 4.40-21 balloons. President R. A. Wurzburg had as his guest late in January Lewis Wyman, southwest representative, who is also treasurer of the company, living in Beverley Hills, California. Mr. Wurzburg had just returned from an extended trip East, where he visited many of the leading tire factories.

The American Rubber Manufacturing Co., Oakland, California, of which N. S. Dodge is president, reports that December last was the best month in the company's history. A new addition to the force is R. E. Clark, who will be sales manager. He was until recently purchasing agent of the Utah Copper Co., Salt Lake City, Utah. The company recently completed an extension, 210 by 250 feet, to the factory to be used solely for heavy wrapped hose, one of the largest products. Sales have been heavy lately in belting for oil field machinery, and demand for general mechanicals has required the factory to work on double shift, especially in the pressrooms. The company plans to open its own warehouse on February 1 at 1855 Industrial street, Los Angeles, California, with George B. Dodge in charge. He is a brother of the president, and another brother, J. L. Dodge, is treasurer of the company.

Good progress in sales in all the many lines of the United States Rubber Co. in the southwest territory is reported, and the new year prospects are said to be very encouraging. Pacific Coast Division Manager J. B. Brady and H. B. Chandlee, supervisor of mechanical goods, spent several days in the middle of January surveying the field with Branch Manager J. B. Magee.

Goodyear Tire & Rubber Company of California was turning out an average of 7,200 casings and 10,000 tubes daily in the middle of January at the works in Los Angeles, and the outlook was for an increase in this large output. The company is taking a considerable interest in the Ford Educational Road Show which will spend three months demonstrating to Southern California ranchers and orchardists the merits of its automotive machinery. It is said that 75 per cent of the trucks and tractors will have Goodyear equipment, and the demonstrator for the latter will be S. P. Cappeles, of the Goodyear Akron force, who will also manage the free concerts, motion picture shows, etc., given en route. John W. Mable, a director of the Los Angeles concern, was a recent visitor at the parent plant in Akron.

H. F. Miller, Racine Tire Company branch manager in Los Angeles, recently attended a conference of Racine distributors in New York, N. Y.

The Spreckels "Savage" Tire Company's plant in San Diego continues to be one of the busiest on the Coast. General Manager

Landis D. McConnell has just had considerable new equipment installed to take care of the rapidly expanding business. It is stated that advance orders for the new popular size 4-ply balloon tire about to be marketed, at a price that will surprise the trade, warrant a daily product in this type alone of over 1,000 for several months to come. Plans are being made for the addition of other sizes soon. The company is reported to have got on the right side of the rubber market early in 1925, and not only are its warehouses full of crude, but another big shipment, contracted for at a price much under the ruling figure, is on its way from Singapore. At least two large tire concerns have made bids for some of its rubber.

Frank L. Ryan, Pacific Coast manager for the India Tire & Rubber Co., with headquarters at 455 Second street, San Francisco, California, reports a notably large increase in sales for 1925 over 1924. In the Los Angeles territory, looked after by Nelson & Price, Inc., total sales alone, it is said, were \$1,200,000 last year. The coast organization was formed only four years ago.

R. J. Cope, who has long been in charge of the Cleveland branch of the Firestone Tire & Rubber Co., and who has been a Firestone man for eleven years, has assumed his duties as manager of the Los Angeles branch, succeeding Elmer S. Firestone, who died recently. Mr. Cope has had as his guest W. R. Stuhler, one of the executive heads of the Firestone company, who is studying coast conditions.

Sales exceeding those of any month since the concern was formed are reported for December by President Roy R. Musser of the Eno Rubber Corporation, Los Angeles, California. The company is producing considerable tire repair material, radiator hose, general mechanical goods, and many patented rubber novelties.

The Durable Mat Co., Pacific Block, Seattle, Washington, is said to be the only rubber goods manufactory in that city. It is owned chiefly by Charles T. Lyons, who has developed a patented process for making floor covering from old automobile tires. The products are used in the Chamber of Commerce and various large public and other buildings, and sales are said to be increasing so rapidly that the factory force may have to be doubled soon.

According to H. R. Greenlee, receiver for the Sound Rubber Co., Tacoma, Washington, the reports concerning the sale of the fixed assets were untrue, nor was a court order issued for such sale. On the contrary, the bondholders and stockholders, at the suggestion of Superior Judge M. L. Gifford, have selected a committee to organize, if possible, a new corporation to purchase the company's assets and to continue the business, subject to the lien rights of the bondholders. It is believed that a feasible plan along these lines will soon be presented for approval by the court.

The Mountain States Rubber Co., Salt Lake City, Utah, represents the Hewitt Rubber Co., the Robins Conveying Belt Co., the Electric Hose & Rubber Co., and The B. F. Goodrich Rubber Co. This distributor serves the states of Utah, Idaho, Montana, Wyoming, Nevada, Arizona, and New Mexico, and is now contemplating the establishment of a branch office and warehouse in Los Angeles. Rudolph Orlob is president and J. H. Oleson is vice-president and sales manager.

The Cummings Tire Co., Portland, Oregon, has found it necessary to increase its capitalization from \$18,000 to \$30,000. W. Mason is treasurer.

The Uhl Rubber Co., Visalia, California, handles India and Kelly-Springfield tires, and has recently opened a branch in Tulare, California. Fred Uhl, Jr., is president.

The India Tire & Rubber Co., Akron, Ohio, recently shipped thirteen carloads of tires to distributors on the Pacific Coast. Warren & Richards, Sacramento, California, have for the past four years handled India tires exclusively.

"PNEUMATIC TIRES," BY HENRY C. PEARSON. AN ENCYCLOPEDIA of tire manufacture, repair, rebuilding, machinery and processes.

## The Rubber Trade in Canada

Members of the Rubber Association of Canada recently considered a set of resolutions passed at a conference of retail tire dealers with representatives of the Retail Merchants' Association of Canada, proposing to organize tire vendors against price reduction. These resolutions asked the tire manufacturers to fix the price at which the retailer must sell, and when these prices are cut that he be stricken from the list of vendors. The experience of the manufacturers has been that any attempt at fixing prices for the retailers has been the basis of violent competition from manufacturing sources, sometimes foreign competition. All that the manufacturing interests are willing to promise is that they will consider the proposition and reply to the association in due course of time.

Tire manufacturers announce a new tire warranty which became effective January 1 and which was signed by the Tire Manufacturers Division of The Rubber Association of Canada. The former system of adjustment has been abolished and a 90 days guaranty will be given on pneumatic tires, and 180 days on solid tires. Leading tire manufacturers state that defects in material and workmanship will show up in road use within these time limits, and in such cases replacements or refunds would be made. This warranty has been in effect in the United States for the past eighteen months.

Revisions have been made in prices of certain rubber sundries. Auto tire accessories are revised; new prices are announced on fuller balls, bibb washers and hose washers. Prices have been generally increased to approximately 10 per cent. Present prices on tires are unchanged and effective till March 31 with delivery at any time up to April 30, terms 2 per cent May 10, 1926. Prices are guaranteed against decline and a rebate on unsold tire stocks will be allowed to retailers.

The ball team representing the Goodyear Tire & Rubber Company of Canada, Ltd., New Toronto, Ontario, winners of the Lake Shore League and champions of Ontario, were honored at a banquet recently when trophies were presented to the team and individual players. W. Kerr, manager of the Goodyear club, presided.

E. B. Ryckman, M. P. and president of the Dunlop Tire & Rubber Goods Co., Ltd., Toronto, was host to the children of the Dunlop employes at a Santa Claus festival and Christmas tree. Hundreds of children enjoyed the treat provided for them by Mr. Ryckman.

M. E. L. Kingsley, manager of the North British Rubber Co., Ltd., Toronto, commenting on the Canadian business outlook for sport goods manufactured by his firm in England, states that in his opinion it will be better than any year since 1914.

J. E. Jones, mechanical division sales manager of the Dunlop Tire & Rubber Goods Co., Ltd., Toronto, states that 1926 will see a marked improvement in the general demand for sport goods. Orders are heavier than ever for the Dunlop Maxfli golf ball and also for the Dunlop Two-Bob golf ball. The new Dunlop tennis ball is now being introduced in the tennis field.

In the recent issue of the special commercial and financial review for the year 1925 as a supplement to the regular edition of the *Gazette*, Montreal, there appeared a special article written by Ralph W. Ashcroft, entitled "Rubber at Home and Abroad."

The Canadian Goodrich Co., Ltd., Kitchener, Ontario, announces the manufacture in Canada of their Hi-Press line of rubber footwear for men, women and children. The company is also manufacturing the Goodrich "Zippers," a new type of galosh originated and made only by this firm, this in addition to Goodrich Silvertown cord tires.

The Canadian Consolidated Rubber Co., Ltd., Montreal, has an inter-department hockey league.

Paramount Rubber Consolidated of Canada, Ltd., Farnham,

Quebec, has gone into voluntary liquidation and the Prudential Trust Co., Ltd., Montreal, has been appointed liquidators.

The Kaufman Rubber Co., Ltd., Kitchener, Ontario, has started its winter advertising campaign featuring rubber footwear and "Adjusto" overshoes.

Lee Puncture Proof Tire Co., of Canada, Ltd., Lachine, Quebec, has commenced a series of newspaper advertisements the first of which appeared recently under the signature of J. J. Carrick, the president.

W. H. Miner, president of the Miner Rubber Co., Ltd., Montreal, is on a business trip to Western Canada, and when last heard from was in Winnipeg.

R. D. Bauslaugh has joined the staff of S. G. Amero, London, Ontario, branch manager of the Kaufman Rubber Co., Ltd., Kitchener, Ontario, and will cover Western Ontario.

## When America Goes Rubber Planting

By Vincent Sauchelli, B. Sc.<sup>1</sup>

Now that Americans have decided to plant rubber on an extensive scale, interest in estate practise on the most progressive plantations of the Middle East will naturally be aroused. There are many and diverse opinions regarding what should or should not be done. In all discussions of plantation work it will be well to listen to the experience of the British, American and Dutch rubber growers.

Recently there has come to the attention of the writer several articles by different individuals which deal with plantation problems. The conclusions were not in all cases warranted by the facts. They were limited to certain localities and erroneously given as applying to all localities.

For example, consider the problem of fertilization. Manuring is a fundamental agricultural practise, therefore it is reasonable to believe that fertilization should be a general practise on all rubber areas. Yet the writer knows from long experience that such practise on the far eastern estates cannot be made practicable or profitable. Experiments will be quoted to show how certain trees responded remarkably to manurial treatment, both in leaf growth, girth, and latex yield. Therefore, the same procedure should be followed throughout the five thousand or fifty thousand acres of a plantation. But the rub comes when a manurial program is tried out. What is the planter up against?

There is, for instance, the cost of the fertilizers imported from distant countries and their transport to the estate. Also sheds have to be erected to protect them from the sun and rain, and a special labor force must be trained and kept under proper European supervision. Coolies cannot do this work without constant intelligent supervision. Special labor forces will have to be organized to plow or chankol (deep hoeing) the soil. This is delicate work as the rubber tree, being a heavy surface feeder, is easily injured by the plows or hoes. Because of the prevalence of root diseases, throughout the tropics, all wounds caused on the big lateral roots must be quickly disinfected by special coolies trained to do that particular job. And this is not all. Before a manurial program can be worked out, considerable study must precede it based on the geology of the country and a careful soil survey of the estate. By the time all this is figured out, one would have to be very optimistic or foolhardy to sanction any extensive fertilization plan. From the records of several private experimental stations covering a period of years it is significant that the conclusion, "Not Proven," or "Not Profitable" was given to very carefully supervised manuring experiments. In most cases proper drainage is more essential than manuring.

A general statement is necessary regarding experimentation in the Far East. Most of the results published by persons connected

with experimental stations, or otherwise, applies to some particular area or is of scientific interest only. The inexperienced reader might be led into wrong channels of deduction if he were to accept the statements as they stand. A due appreciation of limiting factors is too often neglected. For example, a glowing report will be made about the effect of such and such a practise on the yield of latex. On investigation it will be found there was no account taken of the natural variations in the rubber content of the latex in the trees under experiment. This variation can be enormous, amounting to as much as 1,000 per cent in some cases. There will also be a failure to correlate the effect of differences in the length of tapping cut, continuity of yield and the actual caoutchouc content of the latex. Then the law of probable error will not be applied. And so on.

Of course, there has been some very excellent work done by the splendid technical staffs of the large group of estates and by the several government stations. The strictures made above apply chiefly to the reports or "records" given out by many planters whose pet hobby is to rush to print.

Experimentation will have to be pursued by any large planting organization. There are many problems to be worked out by a technically trained staff. These men must have had wide experience in tropical agriculture and estate work so that their judgment will avert costly mistakes. Millions of dollars have been lost by such mistakes in the past history of plantation rubber.

No matter how desirable a practise may be, if it is going to increase the production costs too much then it will have to be passed up. The labor problem wherever one goes in the tropics is an acute factor. The intelligence of the coolie laborer is of a low order. He has to have constant supervision. And there is a limit to the staff of white men that can be employed as supervisors. The success of the British plantations can really be laid to the fact that its leaders were men of a high order, many trained in the Indian Civil Service, who had a wonderful sense of justice and fair-dealing with Indian labor. The men in charge must understand their labor and must know their whims, prejudices and customs.

The technical staff must cooperate with the hard-headed, experienced planters who have a knowledge of the local planting conditions and who must carry out in a practical way the recommendations of the scientists.

The question of clean weeding or selective weeding as against cover crops is still open to debate. Labor and local conditions must decide. Many estates have been almost ruined by allowing weeds to get out of hand. Lallang grass is a real, not imaginary, bogey in the plantation world. Cover crops are known to harbor pigs, rats, porcupines and lead to the spread of pests through the estate and increase the fire risk during the dry season. While the English planters have realized the soil loss due to clean weeding in young clearings is enormous, yet they have found through long years of practise that clean weeding is the system by which their labor force can be retained, costs kept down to the minimum and the Hevea trees made to show a good steady growth. It is only on steep ground that modified systems of clean weeding are practical. Contour terracing, in such areas, is the most practical conservator of top soil.

One of the most important problems facing any new enterprise in plantation rubber is that of correct planting. This refers primarily to the breeding of better strains of Hevea, and to seed selection. Rubber growing should be regarded more as horticulture than as forestry. The fact that on the same plot of ground one rubber tree will yield one ounce of rubber and another tree of the same age, tapped in every respect as the first, will give ten ounces during the same period should give thought to breeding. No inferior strains should be planted, even though it may involve waiting one or two years before planting. Much work has been done up to date in the Far East in establishing the principles governing the selection of rubber trees. There are great difficulties ahead but they can and ought to be overcome in a practical way by American rubber growers of the future.

<sup>1</sup> Formerly agricultural chemist, with Société Internationale de Plantations et de Finance, Federated Malay States.



# The Rubber Trade in Europe

## Great Britain

WITH the coming of the new year many statistics are in process of compilation, and now that the rubber industry is so much in the limelight, its present condition and its prospects for the future are being thoroughly reviewed both in England and America.

### No Real Shortage of Rubber?

The question of world consumption and production is especially discussed, but the probability of a crude rubber shortage seems to be less under consideration. According to *The Rubber Age* of London: "There are skeptics who refuse to believe that there is any real shortage, or likely to be for the next two years or more, and they cite the figures of the Rubber Association of America as a conservative estimate, or perhaps as one that would not be likely to err on the side of putting production too high and consumption too low. According to these computations, production in 1926 will be 606,000 tons, and consumption 575,000 tons, showing a surplus of 31,000 tons. For 1927, the corresponding figures are: production 623,000 tons, consumption 608,000 tons, leaving a bare surplus of 15,000 tons. Hence it is said that there is no real shortage, and therefore present prices are purely artificial—the joint result of panic buying by certain big combines and the cornering of the market by speculative dealers. Neither of these conditions, it is added, have any permanence, so that the actual surplus may be considerably larger. . . . These anticipations are, of course, mainly assumptive, and are not in harmony with views publicly expressed by authorities who may be said to represent producers' interests."

*The Daily Mail* states that some of the leading rubber companies would place the world's consumption for 1925 at 560,000 tons and would estimate the production for 1926 at 630,000 tons. This paper says further: "On this assumption there is room for a 12½ per cent increase in consumption this year before production is overtaken. The American movement for economy in the use of tires should also not be overlooked. This estimate seems to indicate that although prices still may give handsome profits to producing companies there will be no serious shortage of rubber."

### British and American Automobile Interests Identical

Sir William Letts, president of the Society of Motor Manufacturers and Traders of Great Britain, and also managing director of Willys-Overland-Crossley, Ltd., Manchester, England, has been visiting the United States, where he has been in conference with American motor car makers, his purpose being to discuss measures for "bringing the price of rubber down to economic levels." Claiming that he looked at the matter from the Englishman's point of view, Sir William said:

The American has the same conditions identically as Great Britain and the rest of the world in its purchase of raw rubber.

It is of no use to try to rope in the sentiment of automobile users regarding rubber prices. They are in exactly the same position regarding the price of tires here as they are all over the world. The prices of crude rubber as supplied to your manufacturers are the same as they are to manufacturers in all other countries. No one can say that the British Government is picking the price of rubber.

It is rather surprising to talk about the present prices affecting users in a country where motor cars are in such phenomenal demand, especially when you consider how different this country is in general prosperity from other countries which are users of automobiles. We in the automobile industry in Great Britain are just as anxious as you are here for tire prices to be put at an economic figure.

Our interests are common, except that Great Britain is in a far

different situation than the United States as it relates to general prosperity.

### Sir Robert Horne Summarizes Rubber Conditions

In reply to American charges that rubber restriction measures have been instrumental in unduly advancing the price of crude rubber, Sir Robert Horne, formerly Chancellor of the Exchequer, made some interesting statements which were later published in *The New York Times*. While admitting that present prices are too high for the welfare of the rubber industry, in the long run, Sir Robert held that the Stevenson restriction plan had had only a secondary influence in the sharp advances registered in 1925. He also insisted that there had been no British discrimination against the United States and held that the fundamental cause of the advance had been the enormous increase in automobile production and the introduction of balloon tires. He regarded as a fallacy the statement frequently made by Americans that the Stevenson measure is British Government price-fixing. And still further:

It has been stated in America that the British Government guaranteed that the price of rubber should not rise beyond 36 cents. No such guarantee has ever been given by any person in behalf of the British Government, and no evidence of such a guarantee can be produced.

Statements were made by some rubber producers that if the rubber industry got a fair chance the American manufacturers would be able to obtain all the rubber they required at 36 cents. I believe that in this view they would have been proved not far wrong if the consumers, instead of adopting a hand-to-mouth policy in purchasing, had placed their orders with sufficient foresight to enable the rubber industry to accommodate itself to the prospective demand.

I agree with those who think the present high prices of rubber are a disadvantage, and I should like to see them back at a more healthy figure. I am confident that the ordinary operation of economic laws and market conditions will bring about that result.

Apparently in corroboration of these statements, *The London Economist* publishes figures which show that Great Britain's rubber output has fallen by about 20 per cent since 1922, while that of non-restricted countries has risen by 30 per cent. *The Economist* believes that:

As it stands now one-sided restriction has merely had the effect of applying a great stimulus to the production of rubber in non-restricting areas, and as a result the total supplies have never been reduced since restriction was introduced. On the contrary, they have considerably increased, the growth of Dutch production in particular being phenomenal.

### British Dunlop Activities

In acquiring the major portion of the shares of the Macintosh company, the Dunlop Rubber Co., Ltd., now includes in its organization the following concerns: Charles Macintosh & Co., Ltd.; Broadhurst & Co., Ltd.; Campbell, Achnach & Co., Ltd.; Casoid, Ltd.; Manchester Balata Belting Co., Ltd.; Macintosh Cable Co., Ltd.; New Eccles Rubber Works, Ltd.; New Liverpool Rubber Co., Ltd.; Shrewsbury S. T. & Challiner Tire Co., Ltd.; and William Knott & Sons, Ltd.

The business of Charles Macintosh & Co. was founded over a hundred years ago, and by extensions and the acquisition of new concerns it has gradually grown to its present importance. Through the amalgamation mentioned the Dunlop company has now entered the general rubber goods trade and will include in its manufacture every class of rubber goods, either hard or soft, instead of, as formerly, confining its attention to the production of tires, golf and tennis balls, and steel wheels. It is understood that Lord Colwyn, chairman of Charles Macintosh & Co., Ltd., has accepted

the invitation to join the board of the Dunlop organization. Lord Colwyn is a vice-president of the Federation of British Industries and is a director of many important companies.

The Dunlop Rubber Co., Ltd., has announced a further increase of 7½ per cent in the price of automobile tires and of 10 per cent in the price of inner tubes. Sir George Beharrell, managing director of the company, says that prices are still far below the market prices of rubber, also declaring: "The total increase in tire prices as compared with October, 1924, is 49½ per cent in England, while in France the increase varies from 98 to 138 per cent, and in America the increase, excepting one size, is approximately 61 per cent."

### Institution of the Rubber Industry

At the third annual dinner of the Manchester Section, held December 4 at the Grand Hotel, Manchester, J. H. Mandelberg presided, and proposed the toast of the evening, "The Institution of the Rubber Industry and Allied Associations." To this toast J. Haworth replied. Louis Minton proposed a toast of "Mr. and Mrs. J. H. Mandelberg," F. G. Stretch responding.

On the evening of January 4, 1926, the London Section gave an informal dinner at the Engineers' Club, Coventry street, London. Papers on the following subjects were read: "A Note on the Blending of Compounding Ingredients," by T. R. Dawson; "Stress-Strain Relationship of Rubber Under Compression," C. H. Birkitt; and "Low Temperature Vulcanization," by T. Thomas.

At the meeting on January 14 of the Manchester Section the chief address was made by H. C. Young, who took as his subject: "Steam and Its Control as Applied to Rubber Production Methods."

A paper entitled "Accelerators of Vulcanization" was read January 21 at the meeting of the Birmingham Section.

### British Notes

Because of ill health F. Lionel Rapson has resigned some of his duties with the Rapson Tire & Jack Co., Ltd., New Malden, continuing to act however as governing director of the organization. Under a temporary arrangement the Rapson tires will be manufactured by the North British Rubber Co., Castle Mills, Edinburgh.

Fordyce Jones, of the Reliance Rubber Co., Ltd., is now associated with the company's new works at Formosa street, Paddington, London, W. 9. The general business of the organization will still be carried on at the main offices, 212-213 Upper Thames street, London, E.C. 4.

The British Hard Rubber Co., Ltd., has been organized for the purpose of manufacturing and dealing in hard rubber, ebonite, vulcanite, and articles made therefrom. Registered offices are at Wharf Road, Ponders End, Middlesex.

In its issue for December 14, 1925, *The Financial Times* published a special rubber supplement, which contained many items and special articles of interest to the rubber industry.

### Germany

The year 1925 was one of many disappointments. After the worst of the stabilization crisis had passed, toward the end of 1924, it was expected that a period of steady gain would follow. But the credit restrictions by the banks, high rubber prices and hand-to-mouth buying caused many difficulties. An unhealthy feature of the general situation is the inability and even unwillingness of people to meet their obligations. Complaints about this are frequent, especially from the dealers. A further disturbing factor is the great increase in the number of insolvencies, receiverships and protested bills. In some branches of the industry this is particularly bad, the average being three times as many as for the last few years before the war. Here, again, the dealers are hardest hit. Most of the bankrupt firms date from the inflation period but, naturally, many older firms have been affected by the general state of affairs and have had to be wound up too.

So much for the dark side of the German rubber industry.

Manufacturers report greater activity than during the previous year; this, however, was in great measure due to the necessity for dealers to stock up anew. The tire industry was fully occupied far into the fall as the increasing use of automobiles created a larger demand for tires. During the year much progress was made in the task of putting the industry on a more up-to-date basis and large sums of money were spent by the individual firms for new machinery and equipment from other countries. Export business continued quiet but in certain lines in certain countries a renewed interest in German goods was noted.

The outlook for the coming year is considered fair, particularly in manufacturing circles where it is pointed out that the letting down of credit restrictions, which it seems the Reichsbank has decided upon, is bound to make things at least a little easier all around. The Locarno agreements have also infused new hope. Moreover statistics show increasing business, exports have a tendency to climb and optimistic rumors are going the rounds regarding the metal and automobile industry. Others talk of a crisis of which the many business failures are but forerunners, and once more the cry for reorganization is heard.

### Helped by Mr. Pearson's Book

In a recent issue of the *Gummi-Zeitung* a rubber expert relates his experiences first as a beginner and later as adviser. He entered the rubber manufacturing industry equipped with but little knowledge of the business and a great desire to learn. Unfortunately, mystery-mongering was the order of the day and the simplest processes were kept secret. Reading of trade papers was forbidden, nevertheless he became a regular subscriber of the *Gummi-Zeitung* through which he learned of publications on the manufacture of rubber, among others of Henry C. Pearson's *Crude Rubber and Compounding Ingredients*, which had just appeared. He bought this book which quickly explained to him a number of the so-called secrets, and gradually he learned to know what a rubber mixing really was.

### Automobile Exposition, Berlin

The German Automobile Exposition recently held at Berlin was very well-arranged and great interest was shown by numerous visitors including many foreigners.

If, on the one hand, not many novelties were shown this year, on the other certain changes in connection with the use of tires were demonstrated. Thus, while last year balloon tires were a novelty, they have now become so popular that 70 per cent of the passenger cars and light trucks are equipped with these tires. Straight side tires have also recently been introduced and are making headway. Solid tires are rapidly making way for the so-called elastic and cushion tires, where pneumatic tires are not used. While formerly nothing but white tires and tubes found favor with the German public, the campaign for black tires now is gaining ground. At the exhibition almost all tires shown were black. Non-skid rivet tires for cord and cord-balloon tires have come back again.

Among the firms exhibiting were the Continental Caoutchouc- und Gutta-Percha-Compagnie, Hannover, which had an attractive stand. Young girls went about distributing flowers of rubber. The firm announced that 84 per cent of the automobiles shown had Continental tires.

The Peters Union A.-G., Frankfurt a. M., had a few samples of each type of tire manufactured by it on view.

The Hannoversche Gummiwerke Excelsior A.-G., Hannover-Limmer, attracted attention by means of an immense, illuminated sphere covered with black tires.

The Deka (Deutsche Kabelwerke) Pneumatik-G. m. b. H., Berlin S. O. 16, and the Asbest und Gummiwerke Alfred Calmon A.-G., Hamburg, were well represented.

## The Rubber Trade in the Far East

### Malaya

THE prevailing floods appear to be responsible for a large amount of damage to rubber. While an official telegram states that the damage done to rubber estates in Negri Sembilan, Pahang and Perak is of little importance, the condition in Selangor seems to be far otherwise. At all events in their weekly market report Messrs. Fearon & Co., Kuala Lumpur, say:

We have delayed the publication of our weekly review to obtain confirmation of the report of extensive damage to rubber in the coastal and low lying districts. We understand that hundreds of acres of rubber have been completely washed away and thousands of acres have been damaged by the floods, many estates have not been able to obtain their normal yields of latex this month and we also hear that the bulk of the rubber cargo of the *Sarpedon* was shut out due to heavy rains.

So from all accounts shipments for this quarter's rubber will be behind hand and if this weather continues much longer Malaya's full exportable quota will probably not be available for shipment this quarter.

### Rubber and Photography

A reader of the *Malayan Tin and Rubber Journal* sends in a clipping from a recent issue of the *British Journal of Photography* explaining a process for mat surfacing for photographic papers in which latex is used. The clipping in question reads as follows:

Photographic papers having mat or semi-mat surfaces are obtained by admixing rubber latex to the gelatine coating solution. According to the percentage of latex the layer, when dry, will be semi-mat or absolutely mat, even on a very bright support. One liter of a 10 per cent gelatine solution with 123 c.c. of latex will produce a semi-mat layer, and if 300 c.c. of latex are added in absolutely mat layer is obtained.

Semi-glossy papers, which have recently been produced by pouring a glossy emulsion on a mat-baryta support, can be produced, according to the invention, when latex addition is used, by pouring the solution on glossy-baryta supports, which can be made much more easily in uniform quality than mat-baryta supports. Glossy photos may be rendered mat by a gelatine-latex coating, the strength of the picture not being diminished.

A German firm in Hamburg has applied for a patent for the process and if it is made use of by leading photographers, a fair demand for liquid latex may result as from 12½ to 30 per cent of latex is needed in the gelatine solution.

### Malayan Notes

A remarkable feature of the present boom is that so few new rubber companies are being formed to undertake rubber planting. Practically all that is taking place now is that large areas opened up by Chinese are being bought up by sterling companies.

During October, 1925, Malaya exported 28,710.94 tons of rubber against 20,269.73 in October, 1924. The amount imported was 14,986.39 tons, including 11,953.45 tons of wet rubber, against 9,981.34 tons for the same month of the previous year. For the ten months ended October, 1925 and October, 1924, shipments were 255,314.76 tons and 213,012.04 respectively. Imports of rubber were 129,153.78 tons in the 1925 period and 86,005.18 tons in 1924.

The Sungai-Chumor Estates, Ltd., harvested a crop of 423,015 pounds during the past business year. Of this only 388,295 pounds were exportable. The f.o.b. cost of production of this rubber was 9.72d against 10.22d the year before. The profit for the year was £17,217 6s 6d; the capital expenditure £3,593 of which £1,384 went for an extension of 75 acres.

The Kenny (Selangor) Rubber Co., Ltd., reports that the gross average selling price for the crop of 296,980 pounds obtained during the business year ended June, 1925, was 1s 8.20d. For-

ward contracts accounted for 80,640 pounds at an average price of 1s 5½d. This concern works at quite a low cost, the f.o.b. cost on the older estate, Kenny, being 5.30d per pound, and all-in cost 6.88d. If the expenditure on the untapped Bedford estate is included, the cost becomes 8.48d, which is very creditable considering the restriction of crop.

The Rubana Rubber Estates, Ltd., was formed in April, 1910, with a capital of £250,000 of which £200,000 paid for the property in shares and cash leaving £50,000 to work with. The property consisted of 1,119 acres under rubber and 3,764 acres of jungle land held on very favorable terms. During the 15 years ended April, 1925, the company paid in dividends 154 per cent. The original planted acreage has been extended to 3,807 acres. For this extension £62,500 out of the profits was used. It is planned to issue 30,000 new shares and to plant a further 700 acres. The position then will be an issued capital of £330,000 with a planted area of 4,500 acres, that is about £73 per planted acre, which is considered very reasonable for a first class property like Rubana. Due to restriction, the crop was only 647,530 pounds, but for the year ending October, 1925, the standard production allowed the company is 1,173,714 pounds and with releases being increased, it is estimated that the exportable allowance will be 938,971 pounds for the coming year.

The Eaglehurst Rubber Estates Co. has just been formed to acquire estates in the Batu Kurau district of Perak, covering 1,627 acres, of which 1,205 have been planted up, mostly five years and over. Standard production is estimated at 272,000 pounds in 1926 rising to 540,250 pounds in 1932. All-in cost is put at 9d and the selling price over next year at 2s, giving 17 per cent on the issued capital. The authorized capital is £100,000 divided into a million 2s shares, all of which have been issued for cash at par.

The Firestone Liberian project is of course a subject of frequent discussion, although few take it very seriously. People here cannot forget that the Monrovia company tried Liberia and failed, and the difficulties of opening up vast areas in a land practically devoid of transportation facilities, with a population small, unused to regular estate work, and in no way to be compared with the quick, skilled and adaptable Chinese and Tamil labor of the East, looms large before their eyes. However, the *Straits Times* would like to see the Liberian rubber plantation in existence and then have them go through a slump period like that recently ended here so that Mr. Firestone may have personal experience of the vicissitudes of rubber planting.

### Ceylon

The Rubber Controller for Ceylon has issued the following statistics of exports of rubber from Ceylon during the three restriction years.

	CEYLON RUBBER Tons			IMPORTED RUBBER Tons			RUBBER LATEX Gallons		
	1922-3	1923-4	1924-5	1922-3	1923-4	1924-5	1922-3	1923-4	1924-5
November....	3,706	2,847	3,558	90	184	429	953	12	11,253
December....	4,023	4,106	4,146	215	284	424	1,088	..	18,156
January....	4,636	3,793	2,484	253	285	247	1,446	70	2,040
February....	3,432	3,752	2,305	305	470	278	2,421	...	...
March....	3,855	3,257	4,362	240	270	434	674	...	8
April....	2,524	1,984	3,052	210	250	232	2,659	...	...
May....	2,722	1,509	2,686	163	43	109	3,110	...	...
June....	2,765	1,786	4,227	190	222	281	843	...	2
July....	2,676	3,215	3,749	127	167	389	...	50	500
August....	2,669	3,542	3,730	183	184	257	...	...	...
September....	2,529	3,900	4,827	131	161	376	7	...	...
October....	2,309	3,503	4,966	188	279	389	6½	...	...
Total.....	37,846	37,194	44,092	2,299	2,799	3,845	13,207½	132	31,959

The 1922-23 export of 37,846 tons of Ceylon rubber includes 10,360 tons of rubber in stock on October 31, 1922, and since exported. Of 470 tons of imported rubber exported in February, 1924, 26 tons were salvaged rubber.



## Netherlands East Indies

### Sole Crêpe

The annual report for 1924 of the Association of the Central Rubber Station has just appeared. From the director's report it is learned that during the year great interest was shown in crêpe rubber for soles, but toward the latter part of the year enthusiasm cooled off somewhat owing to a decrease in the difference of the price to be obtained over that for standard crêpe. At first the difference in favor of sole crêpe had been as much as 50 cents (Dutch currency) per  $\frac{1}{2}$  kilo, but later on this was only 15 to 20 cents. As far as is known to the experiment stations, the number of estates in Java taking up sole crêpe rose to 40 in that year. Of these only 15 sent shipments regularly, the amount of sole crêpe coming to 79,200 kilos. The other estates experimented with the matter and some exported small trial shipments.

The extent of manufacture of sole crêpe in Java is but a fraction of that of Sumatra. But it is hoped that Java will take more interest in sole crêpe as it is one of the forms of rubber in which natives cannot compete.

### Mat Rubber Packing

Interest in mat packing increased during the year, Java and the Lampongs shipping 726 tons of rubber in this packing against 397 tons in 1923 and 509 tons in 1922. In Sumatra, too, more attention to this was given and 559 tons of rubber were exported in mat packing against 439 tons in 1923. The director comments in connection with this mode of packing that manufacturers should stop grumbling about dirty rubber and realize that they themselves should give expression to their wishes, after consultation with producers who have to decide whether these wishes can be fulfilled and with dealers who should not experience any difficulties on that account. He notes with approval that as a matter of fact the American consumer is giving this question his attention.

### Mold and Spots in Crêpe Rubber

Moldiness of sheet and spots on crêpe continue to be causes for complaint both in the Dutch colonies and in Malaya and at both ends experimental work was done with a view to overcoming the evil. In the case of mold on sheet, bathing in a 0.6 per cent natriumsilicofluoride solution for half an hour or longer decreased the susceptibility to mold formation without completely preventing it. When the substance was added to the latex it prevented proper coagulation. Tests with paranitrophenol were not complete but it seems that this method is harmful. Ammoniumfluoride efficiently checked mold but could not be recommended as it spoils everything it comes in contact with—glass, enamel and aluminum vessels. A German preparation, kalaitine, was not very effective and at the same time was expensive. At present tests with pyrosulfite are under way.

### Netherlands Rubber Area Production and Exports

The Department of Agriculture has published detailed statistics regarding the area, production and exports of rubber in the Netherlands East Indies.

Requests for information regarding plantations were complied with by 836 estates in 1924 against 831 estates in 1923. Of the 836 estates, 465 are located in Java and 371 in the Outer Provinces, East Coast of Sumatra accounting for 222. The number of estates in bearing was 682, 370 being in Java and 312 in the Outer Provinces Estates. In Java, 136 estates grow Hevea exclusively and in the Outer Possessions 258. The favorite crop to plant side by side with rubber is coffee, which was found on 227 estates in Java; tea was combined with rubber on 103 estates. The planted area in 1924 for all the estates in the Netherlands East Indies totaled 973,521 acres. Of this 678,300 were in production. The area planted to rubber exclusively was 564,262 acres. In 1924, 43,937 acres were added to the planted area of 1923 and 15,057 acres were abandoned during the year. More than half of these extensions were in the Outer Possessions. In the 22 years

from 1902 to 1924 the area under estate rubber grew from 435 acres to 973,521 acres.

The production, in metric tons, of estate rubber in the various districts during 1924 was as follows:

	Tons	Per cent of Total
West Java.....	14,851	16
Central Java.....	4,592	5
East Java.....	18,330	21
Total Java.....	37,773	42
EAST COAST		
Sumatra and Acheen.....	44,339	49
Other Sumatra.....	6,790	8
Total Sumatra.....	51,129	57
OTHER OUTER PROVINCES.....	1,389	1
Total Netherlands East Indies.....	90,291	100

The British control a very large percentage of the area under rubber, the figures for 1924 being 310,223 acres against 304,997 acres. Expressed in percentages, the British owned estates in 1924 covered 31.9 per cent of the total area, and 34.9 per cent of the acreage in bearing. Production was 30.9 per cent of the total. About 80 per cent of the total acreage was under some form of restriction. From 1921 to 1924 a total of 30,877 acres were added to British estates.

During the year under review, the highest prices obtained on the Batavia market for Batavia standard crêpe ranged from 94-101, in the last month of the year. The lowest price was obtained in May when the range was 51½ to 65½ cents per half kilo.

It will be of interest to know that in 1924 there were still 17 estates on which *Ficus Elastica* was planted. The area was 1,867 bouws of which 841 bouws were productive, the output for the year being 48,981 kilos. There are 4 gutta percha estates covering an area of 1,909 bouws of which 1,495 were mature. The crop was 108,528 kilos gutta percha.

### Forward Rubber Sales

The Rubber Cultuur Mij, Amsterdam, sold forward out of crop 1926: (a) 2,753,000 half kilos at 1.50.00 guilders per half kilo f.o.b. Eastern port; (b) 5,000,000 half kilos to the General Rubber Co. at ruling London rates with a minimum of 1s 2d per pound, delivery January-December; (c) 1,100,000 half kilos delivery January-December, c.i.f. European port at ruling London prices for standard sheet with a minimum of 1s and a maximum of 1s 3d per pound increased, in case the London price goes above 1s 5d by half the difference between this higher price and 1s 5d.

Out of crop 1927: (a) 703,000 half kilos at 1.63.10 per half kilo f.o.b. Eastern port; (b) 5,000,000 half kilos to the General Rubber Co. on conditions as above under (b); (c) 1,100,000 half kilos c.i.f. European main port on conditions as above under (c).

Out of crop 1928: (a) 347,000 half kilos at 1.48.60 guilders per half kilo, f.o.b. Eastern port; (b) 5,000,000 half kilos to the General Rubber Co., terms as above under (b); (c) 1,100,000 half kilos c.i.f. European main port, terms as above under (c).

Out of crop 1929: 5,000,000 half kilos to the General Rubber Co., terms as above under (b).

### Thinning Out Rubber

At a recently held planters' meeting at Goroet, W. de Vos read a paper on the production from thinned rubber gardens and those not thinned. He put the question whether the present system of thinning out was the right way in view of the productive powers of the trees. In his opinion, in thinning out to 100 and 120 trees per bouw (1.75 acres), for plantings of 15 to 20 years, the bounds have been dangerously exceeded.

He quotes an experiment in this connection as reported by the Rubber Growers' Association, in which a very closely planted area for which a drastic system of tapping had been employed gave an average of 677 kilos per bouw over a period of 10 years, the output for the tenth year still being 697 kilos per bouw. Considering this result he asks whether it is not in the interests of efficient exploitation in times of high prices like the present to give up, temporarily at least, the very conservative methods now in use.

# Rubber Patents, Trade Marks and Designs

## The United States

### December 8, 1925\*

- 1,564,313 Aquatic amusement device. Don L. Alger, Avalon, California.  
 1,564,397 Inner tube. George F. Armstrong, Rutherford, New Jersey.  
 1,564,766 Rubber container. Kenneth Essex Edgeworth, London, England.  
 1,564,801 Fountain pen. John J. Vanecek, Cleveland, Ohio.  
 1,564,905 Suspenders. Frederick C. Simmons, Highland Park, assignor to Pioneer Suspender Co., both in Pennsylvania.

### December 15, 1925\*

- 1,565,275 Coupling hose. Paul H. Henkel, assignor to Continental Rubber Works, both in Erie, Pennsylvania.  
 1,565,306 Rubber drinking cup holder. Simon Bergman, New York, N. Y., and James D. Reifsnnyder, Weehawken, New Jersey, assignors by mesne assignment, to Tulip Cup Corporation, New York, N. Y.  
 1,565,321 Electric connection with rubber sleeve. Walter A. Frantz, Cleveland, Ohio.  
 1,565,440 Tire repairing device. Edward Hainke, Grand Rapids, Minnesota.  
 1,565,582 Crutch pad. Christian Moore, Akron, Ohio.  
 1,565,775 Rubber pad for applying cosmetics. Charles Bash, Brookline, Massachusetts.  
 1,565,807 Corset-brassiere. Leo E. Levy, assignor to Model Brassiere Co., Inc., both in New York, N. Y.  
 1,565,808 Maternity garment. Leo E. Levy, assignor to Model Brassiere Co., Inc., both in New York, N. Y.  
 1,565,882 Automobile bumper comprising rubber block. Walter Lawson Adams, New Haven, Connecticut.  
 1,565,978 Heel. John W. Aymar, Jr., New York, N. Y.  
 1,566,017 Wheel. Arthur William Jones, Birmingham, England, assignor to Dunlop Tire & Rubber Corporation of America, Buffalo, New York.  
 1,566,026 Vehicle construction cushion connection. August H. Leipert, College Point, and John Goldsmith, New York, assignors to International Motor Co., New York, all in New York.  
 1,566,028 Tire casing. Justin W. Macklin, Lakewood, Ohio, assignor to Jackson D. Comstock, Chester, West Virginia.  
 1,566,029 Tire and rim construction. Justin W. Macklin, Lakewood, Ohio, assignor to Jackson D. Comstock, Chester, West Virginia.  
 1,566,063 Foot corrector. Walter M. Barry, New York, N. Y.  
 1,566,109 Garment. Elvira Campa McKeefrey, Brooklyn, assignor to Model Brassiere Co., Inc., New York, both in New York.  
 1,566,172 Pulley. Robert J. Stokes, Princeton, assignor to Thermoid Rubber Co., Hamilton Township, both in New Jersey.

### December 22, 1925\*

- 1,566,266 Pneumatic tire. Charles S. Barrell, Boston, Massachusetts.  
 1,566,400 Nursing bottle with rubber top. Marion H. Gustine, Chicago, Illinois.  
 1,566,651 Weather strip. Hans Christensen, assignor to The Banner Rubber Co., both of Denver, Colorado.  
 1,566,667 Automatic air pump for tires. Frederick F. Fuller, Govert, South Dakota.  
 1,566,704 Rubber friction drive ring. George M. Stevens, assignor of one-third to John C. Balletti and one-third to William C. Anderson, all of San Francisco, California.  
 1,566,815 Molded box with veneer exterior. George W. Bulley, assignor to The Miller Rubber Co., both of Akron, Ohio.  
 1,566,839 Bumper protector cushion. Robert Denrels, New York, N. Y.  
 1,566,858 Swimming ring. Edwin A. Guinzburg, New York, N. Y.  
 1,566,916 Siphon. Tanezo Okihara, Honolulu, Territory of Hawaii.  
 1,567,009 Internal bath bag. Robert E. Sterritt, Cranston, assignor to Davol Rubber Co., Providence, both in Rhode Island.

### December 29, 1925\*

- 1,567,059 Fountain pen. Stormont Jesselyn, Atlantic, assignor to George Zain, Brookline, both in Massachusetts.  
 1,567,117 Mattress with elastic receptacle. Elmer G. Daniels, St. Louis, Missouri.  
 1,567,132 Toy balloon. Harry R. Gill, assignor to The Eagle Rubber Co., both in Ashland, Ohio.  
 1,567,225 Rubber nursing bottle holder. Leo Louis Barbin, Berlin, New Hampshire.  
 1,567,322 Cane engaging inflated balloon. Paul Jones, Cincinnati, Ohio.  
 1,567,384 Pitching target employing rubber layer. Henry J. Rectenwald and William E. Bernhardt, both of Pittsburgh, Pennsylvania.  
 1,567,460 Garter. Howard G. Parsons, Washington, District of Columbia.  
 1,567,468 Rubber hose joint clip. Albert Jacob Russell, Johannesburg, South Africa.  
 1,567,500 Anesthetic appliance. George N. Hein, San Francisco, California.

\*Under Rule No. 167 of the United States Patent Office, the issue closes weekly on Thursday, and the patents of that issue bear date as of the fourth Tuesday thereafter.

- 1,567,527 Fountain pen. John P. Lynn and Hugo A. Funk, both of Chicago, Illinois.  
 1,567,555 Swimming float. Nicholas Straussler, London, England.  
 1,567,714 Overshoe. Morland Micholl Dessau, London, England.  
 1,567,720 Tire armor. Joseph Ferro, Springfield, Illinois.  
 1,567,747 Latex storage battery separator. Paul E. Norris, Wilkinsburg, assignor to Westinghouse Union Battery Co., Swissvale, both in Pennsylvania.  
 1,567,823 Fountain pen. John C. Wahl, assignor to The Wahl Co., both in Chicago, Illinois.  
 1,567,824 Fountain pen. John C. Wahl, Chicago, Illinois, assignor to The Wahl Co., Wilmington, Delaware.  
 1,567,836 Reenforced elastic webbing. George E. Clauss, assignor to The Ansonia O. & C. Co., both in Ansonia, Connecticut.  
 1,567,839 Directional sound detecting device with rubber diaphragm. William D. Coolidge, Schenectady, assignor to General Electric Co., New York, both in New York.  
 1,567,931 Rubber lined compress. Percy H. Epler, Worcester, Massachusetts.  
 1,567,973 Pneumatic figure toy. Abraham A. Mendelson, Philadelphia, Pennsylvania.  
 1,567,987 Catamenial bandage. Harry Ewart Weight, Penarth, Wales.

### January 5, 1926\*

- 1,568,064 Anti-slipping device for shoe soles and heels. David H. Goldman, Cleveland, Ohio.  
 1,568,238 Rubber shoulder pad. George L. Pierce, Brooklyn, assignor to A. G. Spalding & Brothers, New York, both in New York.  
 1,568,405 Heel. John Charles Keller, assignor of one-half to Frank B. Smith, both of Chicago, Illinois.  
 1,568,432 Elastic boot and shoe stretcher. Willy Weise, Berlin-Malchow, Germany.  
 1,568,486 Inflatable hull for boats. Julius Von Waldy, New York, N. Y.  
 1,568,501 Truss. Alfred C. Cooke, South Manchester, Connecticut.  
 1,568,514 Playing ball. Thomas A. Lewis, New York, N. Y.  
 1,568,559 Resilient tire. William E. Kelly, Cleveland, Ohio.  
 1,568,581 Tire armor. Joseph A. Albert, Springfield, Massachusetts.  
 1,568,668 Thumb sucking preventer. Adria L. Harrison, Oakland, California.  
 1,568,838 Garter package. Henry B. Heyman, New York, N. Y.  
 1,568,909 Crotch with elastic abdominal support. Samuel J. Newman, assignor by mesne assignment to I. Newman & Sons, Inc., both of New Haven, Connecticut.

## The Dominion of Canada

### December 8, 1925

- 256,046 Resilient wheel. Fritz Berg, Mannheim, Baden, Germany.  
 256,078 Pneumatic tire. Edward Brice Killen, London, E. C. 4, England.  
 256,111 Pocket attachment with elastic strips. Talmer N. Tollefson, Sioux Falls, South Dakota, U. S. A.

### December 15, 1925

- 256,230 Inflatable stomach pad. John C. Knapp, John J. Donnelly and Dominick A. Cannatella, all of Brooklyn, New York, U. S. A.  
 256,284 Syringe with suction bulb. George G. Kaestner, Montreal, Quebec.  
 256,285 Thumb shield. Sarah Marguerite Keck, Fairview, West Virginia, U. S. A.  
 256,290 Oscillating joint with rubber insert. Hugh Compton Lord, Erie, Pennsylvania, U. S. A.  
 256,298 Internal bath apparatus. William J. Nace, Los Angeles, California, U. S. A.  
 256,310 Tire casing. Maximilian Charles Schweinert, New York, N. Y., U. S. A.  
 256,315 Rubber holder for show cards. Elliott M. Story, Worcester, Massachusetts, U. S. A.

### December 22, 1925

- 256,503 Inflation valve for basketballs, etc. Chauncey D. Nellis, Rosendale, Wisconsin, U. S. A.  
 256,529 Air cushion. Evelyn M. Wilson, Stamford, Connecticut, U. S. A.

### December 29, 1925

- 256,649 Sanitary bandage. Joseph Aronoff and Morris Koff, both of Montreal, Quebec.  
 256,669 Indoor golf ball. Wilfred P. Brereton, Winnipeg, Manitoba.  
 256,693 Rubber surfaced glove. William H. Heaton, Oakland, California, U. S. A.  
 256,699 Pneumatic tire. Aron D. Jones, Highwood, Connecticut, U. S. A.  
 256,717 Piston packing with rubber core. Theodore A. Meyers, Toledo, Ohio, U. S. A.  
 256,768 Paper making machine with rubber roll. The American Lakes Paper Co., Chicago, Illinois, assignee of Charles R. Seaborne, Niagara Falls, New York, both in U. S. A.

Chemical patents will be found on page 265. Machinery and Process Patents on pages 269-270

## The United Kingdom

December 2, 1925

- 241,026 Rubber plug and socket couplings. E. B. Stephenson, 128, Heywood street, Accrington, Lancashire.
- 241,090 Cushion tires. W. R. Gillam, Kent road, Tallmadge, Ohio, U. S. A.
- 241,098 Dial type gage for pneumatic tires. A. Schrader's Son, Inc., 470 Vanderbilt avenue, assignee of J. Wahl, 114 Euclid avenue, and O. Melzer, 514 Chauncey street, all of Brooklyn, New York, U. S. A.
- 241,120 Rubber attachments to rims. Michelin et Cie, Clermont Ferrand, France.
- 241,178\* Rubber air tubes. D. Tosoni, 7 Rue de Pont Fourchambault, Nievre, France.
- 241,220\* Braces. N. De Stempel, 196 Boulevard St. Denis, Courbevoie, Seine, France.

December 9, 1925

- 241,254 Brush with rubber pad. H. Hansen, 9, Aldersgate Buildings, Aldersgate street, London.
- 241,263 Rubber covered driving belts. L. J. Esenhigh, 3, Woodbine Terrace, Grappenhall road, Warrington, Lancashire.
- 241,277 Diaphragms. H. J. Round, 9, Woodberry Crescent, Muswell Hill, London.
- 241,330 Pneumatic tires. W. Breffit, Oak Bank, Ulpha, Broughton-in-Furness, Lancashire.
- 241,363 Rubber universal joints. H. Clark, 54, Richmond street, Bridlington, Yorkshire.
- 241,369 Rollers with rubber tubes. G. Spencer, Moulton & Co., Ltd., 2, Central Buildings, Westminster, and D. M. Proctor, 21, Beechwood avenue, Mutley, Plymouth.
- 241,373 Heel protector. G. G. Anderson, 54, Brunswick road, East Brunswick, near Melbourne, Australia.
- 241,377 Toy pistol. C. H. Hanwell, Adstone House, Little Houghton, Northamptonshire.
- 241,405 Bearings with rubber bush. B. J. Barter, Aldersyde, Station road, Sholing, Southampton.
- 241,416 Brassiere. R. & W. H. Symington & Co., Ltd., and E. Sharpe, 107, St. Mary's road, both in Market Harborough, Leicestershire.
- 241,422 Block tires. H. Moore, 4, Langdale Terrace, Headingley, Leeds.
- 241,457 Nozzle having vulcanite stopper. M. Mulheim, Cologne, Germany.
- 241,462 Rubber block support for seats. O. Y. Imray, 30, Southampton Buildings, London (International Motor Co., 25 Broadway, New York, N. Y., U. S. A.)
- 241,474 Rubber door silencer. S. Dann, 2, Walliscote Road South, Weston-super-Mare, Somerset.
- 241,517\* Steering wheel covers. W. F. Ridge, 227 West Thornton street, Akron, Ohio, U. S. A.

December 16, 1925

- 241,570\* Rubber coated fabric. Duratex Corporation, assignee of P. S. Smith, both of 768 Frelinghuysen avenue, Newark, New Jersey, U. S. A.
- 241,613 Raincoats. G. E. Goldson, Winwood Hall, Woolton, Liverpool.
- 241,717 Foot corrective appliance. H. Baron, Crown House, Aldwych, London. (W. M. Scholl, 211 West Schiller street, Chicago, Illinois, U. S. A.)
- 241,733 Bunion band. F. W. Wilde, 28, Buckingham Palace road, London.
- 241,806 Electric condenser employing rubber pad. J. A. Williams, 13, Pine Grove, Victoria Park, Manchester.
- 241,912\* Mud guards. O. H. Lawatz, Bad Schwartau, near Lübeck, Germany.

December 23, 1925

- 241,966 Inflatable polishing pad. E. C. Brierley, Vale Lodge, Weston Park, Bath, and A. L. McKay, Prudential Buildings, Nottingham.
- 242,004 Sound conduit with rubber bushing. E. A. Graham, St. Andrews Works, Crofton Park Road, Brockley, London.
- 242,019 Watch cover. H. Keightley, Norfolk House, Beckingham, Lincolnshire.
- 242,022 Horseshoe pad. J. J. Hall, 2, Querns Lane, Cirencester, Gloucestershire.
- 242,028 Foot arch support. G. G. Brooks, 572, High road, Leytonstone, London.
- 242,074 Rafts. L. T. Spencer, E. Allen, and R. Jackson, 56A, Highbury Grove, London.
- 242,112 Hair waving appliance. G. Abrahams, 147, Old Chester road, Birkenhead.
- 242,235\* Driving belts. R. Roderwald, 9, Menzelstrasse, Grunewald, assignee of National-Dynamo-Zugbeleuchtung Ges., both of Berlin, Germany.

## Germany

- 422,618 (June 14, 1924). Book. A.-G. Metzler & Co., Munich.
- 422,955 (December 4, 1924). Protective tube for dental boring machines or the like. Kaltenbach & Voigt, Potsdam.
- 423,117 (February 25, 1925). Elastic solid tire. Franz Streit, Vikarienweg 6, Hamburg.

\*Not yet accepted.

## Trade Marks

## The United States

## Two Kinds of Trade Marks Now Being Registered

Under the rules of the United States Patent Office, trade marks registered under the Act of February 20, 1905, are, in general, fanciful and arbitrary marks, while those registered under the Act of March 19, 1920, Section 1 (b), are non-technical, that is, marks consisting of descriptive or geographical matter or mere surnames. To be registered under the later act trade marks must have been used for not less than one year. Marks registered under this act are being published for the first time when registered, any opposition taking the form of an application for cancellation.

December 8, 1925, Act of February 20, 1905

- 206,594 Oblong enclosing the word: DoVAN—chemicals for compounding rubber, such as diphenylguanidine. Dovon Chemical Corporation, New York, N. Y.
- 206,640 Red triangle beneath which are the words: "LOOK FOR THE RED TRIANGLE"—boots and shoes of leather, fabric, rubber, etc. The Lynchburg Shoe Co., Inc., Lynchburg, Virginia.
- 206,727 The words: CRAWFORD, the lower part of the letter: F being lengthened on both sides to underline the word; in smaller letters below the words: "IN PROCESS" SYSTEM—men's shoes of leather, rubber, fabric, etc. Charles A. Eaton Co., Brockton, Massachusetts.
- 206,758 The word: WILLOWELT, the letters becoming larger towards the center—boots and shoes of leather, rubber, fabric, etc. W. B. Coon Co., Rochester, New York.
- 206,767 COMFOPEDIC—shoes of leather, rubber, fabric, etc. Marshall Field & Co., Chicago, Illinois.
- 206,774 The words: FORE SOLED in script—shoes of leather and rubber, leather and fabric, etc. John J. Daly, Boston, Massachusetts.
- 206,775 IRISOL—rubber heels, tips, soles and pads for boots and shoes. I. T. S. Rubber Co., Ltd., London, England.
- 206,800 ALL-PRO—shoes with rubber soles. Lambertville Rubber Co., Lambertville, New Jersey.
- 206,835 Circle in which are enclosed the letters: S R—swimming brassieres, household aprons and rubber gloves for household use. The Seamless Rubber Co., Inc., New Haven, Connecticut.
- 206,842 The words: LEG RITE with the letters L and R lengthened to form underline—hosiery and garters. Kaufmann Department Stores, Inc., Pittsburgh, Pennsylvania.
- 206,874 Square containing the words: QUACKENBUSH Co. heavily underlined; in the lower part of the square are the words: SOLE-FLEX—shoes and slippers of leather, rubber and fabric, etc. Quackenbush Co., Paterson, New Jersey.

December 15, 1925, Act of February 20, 1905

- 206,896 PUROX having the first and last letters lengthened at top and bottom enclosing the word in box—hose for use with welding and cutting equipment. Purox Co., Denver, Colorado.
- 206,917 PALS—dress and coat shields. Stanley Johnston, Wilksburg, Pennsylvania.
- 207,045 Representation of a man putting on a pair of gloves—mittens and gloves of leather, rubber and fabric, etc. C. D. Osborn Co., Chicago, Illinois.

December 15, 1925, Act of March 19, 1920

- 207,085 The word: SUPERIOR with letters running higher towards the center—belting, hose, machinery packing and nonmetallic tires. The Cleveland Inner Ring Co., Cleveland, Ohio.
- 207,086 VOGUE—hard rubber combs. American Hard Rubber Co., Hempstead and New York, N. Y.
- 207,087 Representation of a map of the state of Ohio, with the word: OHIO in the center—graphite electrical contact-making brushes. The Ohio Carbon Co., Cleveland, Ohio.

December 22, 1925, Act of February 20, 1905

- 207,136 FLEX-O-TITE—dental rubber. Charles H. Kettles, Indianapolis, Indiana.
- 207,144 Red ring with white center in which are the words: RED RING—inner tubes for pneumatic tires. Hood Rubber Co., Watertown, Massachusetts.
- 207,147 FARCO—tire casings and tubes. United States Farm Sales Co., Salina, Kansas.
- 207,157 The word: AUTO, the first letter ending in a pennant in which is the word: EZE—tire patches. Central Laboratories Co., Wheeling, West Virginia.
- 207,248 The word: AUTO, the first letter ending in a pennant in which is the word: EZE—rubber and gasket cement. Central Laboratories Co., Wheeling, West Virginia.

January 5, 1926, Act of February 20, 1905

- 207,473 The word: ECLIPSE with the representation of an eclipse at one side—photographic materials, namely, rubber solution, etc. Clarence R. La Roe, Cleveland, Ohio.
- 207,481 RED SEAL—golf, tennis, footballs, etc. The P. Goldsmith Sons Co., Cincinnati, Ohio.
- 207,482 GOLD SEAL—golf, tennis, footballs, etc. The P. Goldsmith Sons Co., Cincinnati, Ohio.
- 207,509 BUBBLE BOAT—the letters of the first word irregular in outline suggestive of bubbles—floats and rafts. United States Rubber Co., New York, N. Y.
- 207,543 Square containing a representation of the sun on which is superimposed a flag bearing the word: BELDAM'S, at the bottom of the square are the words: THE BELDAM PACKING & RUBBER CO., LIMITED—hose, rubber, gutta percha and balata valves, etc. The Beldam Packing & Rubber Co., Limited, London, England.



- 207,575 TOM THUMB—fountain pens. Samuel A. Harris, New York, N. Y.
- 207,588 Fancy square in which are the words: "ARABELLE," "FASHIONS EXCLUSIVE WITH" and "THE BLUM STORE"—raincoats. The Blum Store, Philadelphia, Pennsylvania.
- 207,610 HYPERAKE—rubber hose. The B. F. Goodrich Co., New York, N. Y.
- 207,612 CROWN—rubber and rubber composition sanitary and surgical goods. Herbert A. Rindskopf, doing business as Crown Rubber Manufacturing Co., Brooklyn, New York.
- 207,627 The word: DAVIS enclosed in a shield—waterproof coats composed of rubber and fabric. United States Rubber Co., New York, N. Y.
- 207,635 TEXLAND—shoes of leather, rubber and fabric, etc. Higginbotham-Bailey-Logan Co., Dallas, Texas.
- 207,637 CYCOLENE—semifluid composition for use as dressing for articles of rubber, etc. Jaeger Chemical Co., Inc., New York, N. Y.
- 207,653 VICTORY—rubber jar rings. Smalley, Kivlan & Onthank, Boston, Massachusetts.
- 207,694 Representation of a fountain pen—fountain pens. The Conklin Pen Manufacturing Co., Toledo, Ohio.
- 207,702 The word: OMO in irregular outline with two wings extending from the top of the letter M—brassières, rubber aprons, bathing caps and garters. The Omo Manufacturing Co., Middletown, Connecticut.

#### January 5, 1926, Act of March 19, 1920

- 207,715 The word: INTERLOC, the letter C extending to form pennant which contains words: TRADE MARK—tire casing boots and sectional repairs for pneumatic tire casings. Out West Manufacturing Co., Denver, Colorado.
- 207,717 Representation of a shield containing the words: NORMAL TREAD FOOT SUPPORT, above the shield the words: DR. SHIRE'S, and below, the words: COMBINATION LAST—shoes of leather, rubber, etc. Bray Shoe Co., Philadelphia, Pennsylvania.
- 207,721 FORSYTHE in large letters, above the word: "THE" in smaller letters, and below the word: "SHOE"—boots and shoes of leather, rubber, fabric, etc. Forsythe Shoe Corporation, Inc., New York, N. Y.
- 207,722 Box with the word: CRESCENT, the letter C formed like a crescent—raincoats, aprons, ponchos of rubber. Crescent Rubber Co., New York, N. Y.

#### The Dominion of Canada

##### Registered

##### December 29, 1925

- 38,981 Concentric circles enclosing the words: "CHAPMAN'S SUPER-WELD," the inner circle containing the words: "FOR TIRES AND TUBES"—welding rubber. John Elmore Chapman, Township of Draper, District of Muskoka, Ontario.
- 38,983 Letters: "S R" within a red circle—rubber goods. The Seamless Rubber Co., Inc., New Haven, Connecticut, U. S. A.
- 39,026 Letter: "S" written in the form of a diamond shaped device—tires, accessories, repair kits, boots, etc. Seiberling Rubber Co., Akron, Ohio, U. S. A.
- 39,027 Word: "EVERSCRIPT"—fountain pens. The Wahl Co., Chicago, Illinois, U. S. A.
- 39,028 Word: "PARABEL"—tires. Gummiwerke Fulda Akt. Ges., 59 Kunzellerweg, Fulda, Germany.

#### The United Kingdom

##### December 2, 1925

- 461,023 MAX-PNEU—pumps. Colin Macbeth, Dunsinnan, Ladywood road, Four Oaks, Warwickshire.
- 461,680 The word: AQUATITE with the representation of a peacock above—rainproof clothing not including boots and shoes. Cohen & Wilks, Ltd., Aquatite Mills, Derby street, Cheetham, Manchester.
- 463,015 Box enclosing a fanciful design bearing the words: "MILADI," "WATERPROOFS," and "BRIGHTEN THE Dullest Day"—ladies' waterproof coats. P. B. Cow & Co., Ltd., 46 Cheapside, London, E. C. 2.
- 463,490 CONCERTINA—goods manufactured from rubber. St. Helen's Cable & Rubber Co., Ltd., Trading Estate, Bath road, Slough, Buckinghamshire.

##### December 9, 1925

- 463,568 Representation of an eagle standing on top of a double circle which encloses a shield and the words: "THE SCOTIA COSSACK NORTH BRITISH RUBBER CO., LTD."—boots, shoes and over-shoes. The North British Rubber Co., Ltd., Castle Mills, Fountainbridge, Edinburgh, Scotland.

##### December 16, 1925

- 458,345 BONZO—rubber bones and biscuits for dogs. Allweather & Co., Ltd., 43, Brompton road, London, S. W. 3.
- 459,253 Oblong which encloses a representation of the sun and the words: "EAGLE ELASTIC," "RAYON," "QUALITY...INCH...Yds."—elastic cords, braids, laces, brace ends and webs. W. J. Adams & Co., Ltd., 7, Museum street, Manchester.
- 460,080 BONZO—goods manufactured from rubber and gutta percha not including imitation bones and biscuits. George Ernest Studdy, 88, Philbeach Gardens, Warwick road, London, S. W. 5.
- 460,388 Representation of a cat above which is the word: FELIX—tire repair outfits. Pat Sullivan, 1947 Broadway, New York, N. Y., U. S. A. (Harold J. C. Forrester, Jessel Chambers, 88-90, Chancery Lane, London, W. C. 2.)

- 462,498 FATURAN—vulcanite walking and umbrella sticks. Heinrich Otto Traun, trading as Dr. Heinrich Traun & Söhne, Vormals Harburger Gummi Kamm Co., 59, Meyerstrasse, Hamburg, 8, Germany. (D Young & Co., 11-12, Southampton Buildings, London, W. C. 2.)

##### December 23, 1925

- 464,325 FIGELITE—copper wire covered with rubber or gutta percha. Pirelli-General Cable Works, Ltd., 144, Queen Victoria street, London, E. C. 4.

##### December 30, 1925

- 447,520 NESTOR—reclaimed rubber. James Ferguson & Sons, Ltd., Lea Park Works, Princes road, Merton Abbey, London, S. W. 19.
- 447,521 NESTOLITE—rubber and ebonite slabs for surgical goods. James Ferguson & Sons, Ltd., Lea Park Works, Princes road, Merton Abbey, London, S. W. 19.
- 451,675 Representation of a red circle—rubber hip boots. Mishawaka Rubber & Woolen Manufacturing Co., Hill and Water streets, Mishawaka, St. Joseph County, Indiana, U. S. A.
- B460,001 REDIPONT—fountain pens. Ingersoll Redipoint Co., Inc., University and Syndicate streets, St. Paul, Minnesota, U. S. A.
- 461,568 DREADNOUGHT—graphite crucibles. The Dreadnought Crayon Manufacturing Co., 13, Rosamund street, Salford, Lancashire.
- 463,828 EBONOID—rubber goods of the nature of vulcanite or ebonite. The Clayton Rubber Co., Ltd., Progress Works, Croft street, Clayton, Manchester, Lancashire.

#### New Zealand

##### November 5, 1925

- B20,757 DEAD EASY—tire inflators. Harley Mitchell Dunlap, doing business as Globe Manufacturing Co., 64 Grant street, Battle Creek, Michigan, U. S. A.
- 23,187 Representation of a triangle containing the words: "THREADED RUBBER INSULATION," "C. A. V. BATTERY"—electric batteries having threaded rubber insulation. C. A. Vandervell & Co., Ltd., Acton, London, W. 3, England.

##### November 19, 1925

- 21,930 DIAMOND—tires, inner tubes, etc. The B. F. Goodrich Co., 1780 Broadway, New York, N. Y., U. S. A.

##### December 3, 1925

- 22,393 "SUPERTWIST"—tires. The Goodyear Tire & Rubber Co., 1144 East Market street, Akron, Ohio, U. S. A.
- 23,007 BOSCALACE—rubber shoe laces. John Faulkner, Sun Top Flats, Ocean Beach, Manly, New South Wales, Australia.
- 23,261 TELAMITE—asbestos brake linings. George Angus & Co., Ltd., St. John's Works, Grainger street West, Newcastle-on-Tyne, and Bentham Woven Hose & Belting Works, Bentham, Lancashire, England.

#### Designs

##### The United States

- 68,978 Tire. Term 14 years. Paul W. Litchfield, assignor to The Goodyear Tire & Rubber Co., both of Akron, Ohio.
- 69,062 Sole for shoes. Term 7 years. Fred W. Bommer, assignor to Lambertville Rubber Co., both of Lambertville, New Jersey.
- 69,080 Tire. Term 7 years. Robert C. Hargreaves, Detroit, Michigan.
- 69,138 Tire. Term 3½ years. Robert H. Keaton, San Francisco, California.
- 69,178 Resilient tire. Term 14 years. Albert Hargreaves, assignor to The Firestone Tire & Rubber Co., both of Akron, Ohio.
- 69,181 Resilient tire. Term 14 years. Robert Ireddell, assignor to The General Tire & Rubber Co., both of Akron, Ohio.
- 69,186 Heel. Term 14 years. Herman E. Morse, assignor to The Goodyear Tire & Rubber Co., both of Akron, Ohio.

#### The Dominion of Canada

- 6,960 Advertising display device. Canadian Consolidated Rubber Co., Ltd., Montreal, Quebec.

#### Germany

- 924,443 (August 28, 1925). Shopping bag. Gustav Berlinger & Co., Stuttgart.
- 924,550 (September 11, 1925). Thimble with rubber ring. Otto Baltzer, Bartelshagen b. Ribnitz.
- 924,559 (September 23, 1925). Rubber sheet for wall boards in schools. Georg Wicke, Derflingerstrasse 3, and Bruno Zinnecker, Alt-Moabit 82a, Berlin.
- 924,625 (September 12, 1925). Purifier for rubber, especially eraser rubber. Franz Xaver Blicharski, Vienna. Represented by F. Neubauer, Berlin W. 9.
- 924,719 (August 4, 1925). Rubber heel. Maria Foss, née Reinert, Hofbrunnstrasse 15, München-Soln.
- 924,801 (July 14, 1925). Squirting rubber sponge. Belinde-Werke A.-G., Wandsbek.
- 924,804 (July 28, 1925). Movable doll's eye. Kölnische Gummifaden-Fabrik, Köln-Deutz.
- 925,046 (September 6, 1925). Shoe with rubber sole. Etablissements Hutchinson Compagnie Nationale du Caoutchouc, Paris, France. Mannheim Branch, Mannheim.
- 925,059 (September 14, 1925). Flat rubber suction piece for artificial teeth. Dr. Karl Heitmüller, Göttingen.

# Annual Market Reviews for 1925

## New York Rubber Market—Cotton and Fabrics

### New York Rubber Market

REFERENCE to the chart of New York closing prices of spot ribbed smoked sheets for 1925 shows a very rapid advance in prices reaching a climax of \$1.21 about the middle of July when a sharp reaction occurred sending the price down from the year's peak to 72 cents early in August. About the middle of the latter month the upward course again set in and continued for 4 months. The high, reaching \$1.10 early in December from which level it rather abruptly declined to 88½ cents and closed the year at 91¼ cents.

The course of the market in 1925 confirms the statement made a year ago that the upward turn of rubber prices in June of that year marked a new departure in the history of crude rubber. The outlook a year ago as to the world's probable crude rubber requirements seems to have been practically realized. In 1925 the world's crude rubber consumption was 550,000 tons divided as follows: United States 390,000 tons, other countries 160,000 tons. It is now estimated that total consumption in 1926 will be 5 per cent or 25,000 tons more than in 1925 or 575,000 tons and that the United States will consume 10,000 tons more than in 1925.

The estimated consumption figures for the rubber industry in the United States in 1925 and 1926 compare as follows:

	1925 Tons	1926 Tons
Consumption of Crude.....	390,000	400,000
Consumption of reclaim.....	130,000	190,000

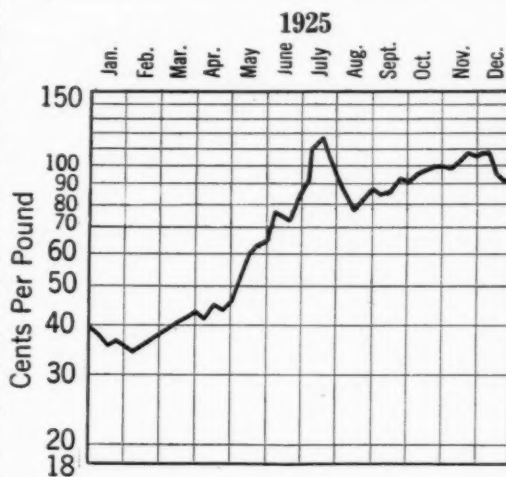
The above estimates are based on the assumption of 5 per cent increase in tire production with allowance for the higher proportion of rubber required in balloon tires, pneumatic truck and bus tires.

Market conditions viewed progressively for 1925 show that the year opened with spot ribbed smoked sheets firm at 40 cents and the market active. During the month there was some decline in the price due to the lessening of consumers' demand because they had provided for their early future needs, and the liquidation of London speculative interests.

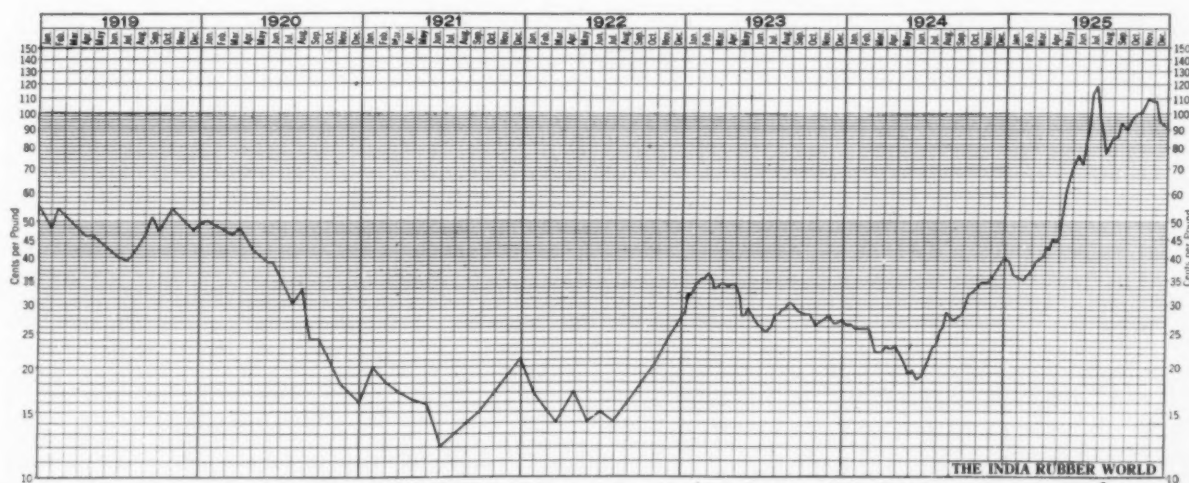
In February spot showed a firm upward tendency and supplies were short the entire month. The average London price for the quarter preceding averaged 17.998d and the Stevenson committee set the exportable allowance from British plantations at 55 per cent of standard production for the quarter beginning February 1. This was an advance of 5 per cent, only, over the allowance of the previous quarter. During the month first latex crepe was at a premium in New York of ¾ to 1 cent over ribbed smoked sheets.

The March market gained strength due to the depletion of the London stock by heavy consuming demand from America and the limitation of the exportable allowance. March 25 the price of spot ribs was 43½ cents, the highest since April, 1920. It was estimated that 2 consecutive increases of 10 per cent under the Stevenson plan would not be adequate to prevent a market squeeze without the help of a decrease in the consuming demand.

In April the market gained strength the entire month due to



Closing Spot Prices of Ribbed Smoked Sheets—1925



Closing Prices in the New York Spot Rubber Market of Ribbed Smoked Sheets—1919-1925

**LOWEST AND HIGHEST NEW YORK SPOT RUBBER PRICES, 1917-1925**  
Prices in Cents Per Pound

	January	February	March	April	May	June	July	August	September	October	November	December
1917, First latex crepe.....	75	80	82	81	83	83 1/2	65 1/2	66	66 1/2	65 1/2	57	54
Ribbed smoked sheets.....	75	80	81	81	83 1/2	80 1/2	65 1/2	66	66 1/2	65 1/2	57	54
Upriver fine.....	75	80	81	81	83 1/2	80 1/2	65 1/2	66	66 1/2	65 1/2	57	54
Upriver coarse.....	75	80	81	81	83 1/2	80 1/2	65 1/2	66	66 1/2	65 1/2	57	54
1918, First latex crepe.....	50	53	50	51	51 1/2	49	48 1/2	48	48 1/2	46 1/2	36	37
Ribbed smoked sheets.....	53	58	57	59 1/2	62	63	63	63	60 1/2	59	41	61
Upriver fine.....	54	57 1/2	56 1/2	59 1/2	62	63	63	63	60 1/2	59	41	61
Upriver coarse.....	57	61	56	59 1/2	62	63	63	63	60 1/2	59	41	61
1919, First latex crepe.....	37	41	35 1/2	34	38 1/2	40	40	40	40	35	31	36
Ribbed smoked sheets.....	52	58	51	56	42	40	40	40	40	35	31	36
Upriver fine.....	51	56	51	56	42	40	40	40	40	35	31	36
Upriver coarse.....	58 1/2	61	58 1/2	59 1/2	56 1/2	55 1/2	55 1/2	55 1/2	55 1/2	53	53	51
1920, First latex crepe.....	34	36	34	35	34	34 1/2	32	32	32	33 1/2	34 1/2	35
Ribbed smoked sheets.....	51	55 1/2	45 1/2	51 1/2	46 1/2	43 1/2	39	39	39	33	33	35
Upriver fine.....	51	55 1/2	45 1/2	51 1/2	46 1/2	43 1/2	39	39	39	33	33	35
Upriver coarse.....	45	50	42 1/2	45 1/2	40 1/2	38 1/2	35	35	35	33	33	35
1921, First latex crepe.....	34	37	31 1/2	30	32	29 1/2	29 1/2	29 1/2	29 1/2	26	20 1/2	18
Ribbed smoked sheets.....	19	21 1/2	19 1/2	19 1/2	17 1/2	16 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	14
Upriver fine.....	18	20 1/2	17 1/2	17 1/2	16 1/2	15 1/2	14 1/2	14 1/2	14 1/2	14 1/2	14 1/2	13
Upriver coarse.....	13	17 1/2	13 1/2	14	14 1/2	13 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	11 1/2
1922, First latex crepe.....	15 1/2	21	14	16 1/2	14 1/2	13 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	11 1/2
Ribbed smoked sheets.....	15 1/2	21	14	16 1/2	14 1/2	13 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	11 1/2
Upriver fine.....	15 1/2	21	14	16 1/2	14 1/2	13 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	11 1/2
Upriver coarse.....	12 1/2	18	12	13 1/2	12 1/2	11 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	9 1/2
1923, First latex crepe.....	28 1/2	37 1/2	33 1/2	36 1/2	33 1/2	31 1/2	30 1/2	30 1/2	30 1/2	29 1/2	26 1/2	26 1/2
Ribbed smoked sheets.....	28 1/2	37 1/2	33 1/2	36 1/2	33 1/2	31 1/2	30 1/2	30 1/2	30 1/2	29 1/2	26 1/2	26 1/2
Upriver fine.....	28 1/2	37 1/2	33 1/2	36 1/2	33 1/2	31 1/2	30 1/2	30 1/2	30 1/2	29 1/2	26 1/2	26 1/2
Upriver coarse.....	24 1/2	30 1/2	25 1/2	28 1/2	25 1/2	23 1/2	22 1/2	22 1/2	22 1/2	21 1/2	19 1/2	17 1/2
1924, First latex crepe.....	24 1/2	27 1/2	25 1/2	26 1/2	24 1/2	23 1/2	22 1/2	22 1/2	22 1/2	21 1/2	19 1/2	17 1/2
Ribbed smoked sheets.....	24 1/2	27 1/2	25 1/2	26 1/2	24 1/2	23 1/2	22 1/2	22 1/2	22 1/2	21 1/2	19 1/2	17 1/2
Upriver fine.....	24 1/2	27 1/2	25 1/2	26 1/2	24 1/2	23 1/2	22 1/2	22 1/2	22 1/2	21 1/2	19 1/2	17 1/2
Upriver coarse.....	17 1/2	23 1/2	19 1/2	20 1/2	18 1/2	17 1/2	16 1/2	16 1/2	16 1/2	15 1/2	14 1/2	13 1/2
1925, First latex crepe.....	34 1/2	39 1/2	34 1/2	37 1/2	34 1/2	32 1/2	31 1/2	31 1/2	31 1/2	30 1/2	28 1/2	26 1/2
Ribbed smoked sheets.....	34 1/2	39 1/2	34 1/2	37 1/2	34 1/2	32 1/2	31 1/2	31 1/2	31 1/2	30 1/2	28 1/2	26 1/2
Upriver fine.....	34 1/2	39 1/2	34 1/2	37 1/2	34 1/2	32 1/2	31 1/2	31 1/2	31 1/2	30 1/2	28 1/2	26 1/2
Upriver coarse.....	31 1/2	37 1/2	31 1/2	34 1/2	31 1/2	29 1/2	28 1/2	28 1/2	28 1/2	27 1/2	25 1/2	23 1/2

the strong statistical position and the weekly reductions of the London stocks required to supply the spot demand. Spot was held at a premium of 1/4 cent a pound and consumers were not placing orders even for early futures. Belief became general that tire production, then at a high level, would continue unabated through May and June, and that this condition in conjunction with the low stocks in London would maintain the market at high levels. April spot prices ranged from 41 1/4 cents April 1, to 44 7/8 cents April 30.

In May American consuming interests sharply realized the fact of world rubber shortage in spot and nearby rubber. From 45 cents May 1 the spot rapidly advanced week after week and closed the month at 69 1/2 cents, the highest since April, 1918. In the meantime interest was growing in the possibilities of rubber planting under American control to afford ultimate relief from the war time prices toward which the market in June advanced with resistless force. Price range in June was from 69 1/2 cents June 1 to 85 3/4 cents June 30. This rise was directly attributable to the operation of the Stevenson plan which in a year had reduced spot stocks from 8 or 9 months supply to 3 months supply and advanced the prices within the year from 18 cents to 85 3/4 cents. The peak price of the year for spot ribbed smoked sheets was reached July 20 at \$1.21. Strong competition among consumers preceded this price. Speculation in rubber in all positions was particularly active in London where profit taking was rife and the generally excited market demonstrated the acute shortage of stocks.

Within a week the price fell 40 cents below the peak due to the elimination of the speculating element after the urgent consuming demand was satisfied. The closing price for July 31 on spot ribs was 93 3/4 cents. On this date the British Colonial office announced that the exportable allowance for August, September and October would be advanced 10 per cent, releasing 75 per cent of standard production for those months.

The August market was free from the speculative influences of July and buying interest was generally absent. Prices declined under these conditions from 94 1/2 cents August 1 to 90 cents August 31.

There was a small downward reaction covering the first half of September while American manufacturers showed only moderate interest and reports indicated a probable substantial decrease in rubber consumption for the remainder of the year. Before the end of the month, however, prices rose from 88 1/4 cents to 93 1/2 cents and again receded to a medium level of 91 1/2 cents on the last day of September.

The October market was quiet but sensitive. It was evident that a further 10 per cent advance of the exportable allowance would be in order for the quarter beginning November 1. Factory consuming interests resumed buying in all positions as the month advanced especially during the second and third weeks. The range of October spot prices was 94 1/4 cents October 1 upward to \$1.01 1/2 October 29.

The market showed increased buying activity in November and the spot rib price rose from the dollar level November 1 to \$1.10 1/2 November 23. All other grades and positions were included in the advance. The activity was stimulated by higher London cables and limited offerings from the Far East. Buyers outnumbered sellers and met the dealers' prices.

The December market showed a decline from \$1.06 3/4 to 91 cents December 31, due to the liquidation of London speculators on the long side and the more comfortable position of the large American consumers who provided in November for their early 1926 requirements, and the removal of all fear of another run-away market as in July.

**DURING SEPTEMBER THE UNITED KINGDOM IMPORTED FROM AMERICA** an unusually large amount of rubber footwear, including 73,754 pairs of rubber boots, value \$136,937; and 49,876 pairs of rubber shoes, value \$31,656. The purchase of soles and heels was estimated at \$4,149, and canvas rubber-soled shoes at \$2,053.



## Cotton and Fabrics

### American Cotton

In 1925 the prices of spot middling upland cotton fluctuated between much lower levels than in 1924. From September, 1924, to September, 1925, these fluctuations ranged between 22 and 25 cents. The January opening price was 24 $\frac{7}{8}$  cents, but fell off, gradually declining to 24 cents as the month closed. The 1924-1925 crop was 13,500,000 bales, and in view of the prospects for increased world consumption in 1925 it was questioned whether the January prices for cotton were sufficiently high to encourage planting as large an area for the next season's crop. The market during February opened active showing a steady rise which reached 25 $\frac{3}{8}$  cents at the end of the month.

The sentiment of the trade, however, was that the market would tend to lower levels in spite of larger cotton consumption and the usual chances against the crop. In March the price averaged 25 $\frac{3}{8}$  cents. The highest level was 26 cents and the lowest 24 $\frac{3}{8}$  cents on the last day of the month. Spot middlings for April averaged 1 $\frac{1}{8}$  cents below the March average. There was no improvement in spot demand and no evident pressure to sell.

In May the market was largely influenced by news of the weather. It sagged from 24 $\frac{1}{2}$  cents at the first of the month to 22 $\frac{1}{4}$  cents on the 13th swinging up to 23 $\frac{3}{4}$  cents on the 29th. By June the new crop prospects were very promising and the first crop report indicated a prospective yield of 15,000,000 bales. The rise in price from the middle of May continued through June bringing the closing price for that month to 24 $\frac{7}{8}$  cents. This advance was due to continuance of unfavorable crop conditions based on the persistent drought in Texas, and heavy infestation of the boll weevil in the East. The July price record ranged from 24 $\frac{3}{4}$  cents on the 1st to 25 $\frac{1}{2}$  cents on the 29th of the month.

In August rains in Texas and field crop conditions forecasting the largest crop since 1914 caused a decline of 2 $\frac{1}{4}$  cents between August 1 and August 31. On the latter date the spot price was 22 $\frac{1}{4}$  cents. The government crop report of September 1, indicating a yield below the expectations of private reports, caused an upward price movement culminating in the third week. Nearly 1 cent of this advance was lost in the last 10 days of the month which closed at 23 $\frac{1}{8}$  cents or 1 cent above the price at the beginning of the month.

During October the market declined to 19 $\frac{3}{8}$  cents due to the government forecast of 15,226,000 bales or the third largest crop known. Reaction from the October slump was evident early in November when the decline was checked below the 20 cent level, turning steady at 18 cents. Some trade authorities considered that 1,000,000 bales of the year's crop would prove untenderable, others that double that quantity was unsuitable for contract delivery.

In December the final government forecast caused general belief that the crop will be 16,000,000 bales, or the largest in years, also that trade conditions do not justify the assumption that this crop can be absorbed at present values. Prices for December ranged from 20 $\frac{3}{8}$  to 21 $\frac{3}{8}$  cents.

### Egyptian Cotton

Egyptian cotton prices soared to unprecedented levels early in 1925, due to restricted supply. Medium Uppers were substituted for Sakels, the strong high prices ruling during the first quarter. In March the prices reached 90 cents for top grade Sakels, and 75 cents for Medium Sakels, with Medium Uppers steady at 43-45 cents. In April there was a price reaction of 17 cents on Sakels and 5 cents on Uppers. May-June prices were: Medium Sakels 60 $\frac{1}{2}$  cents and Medium Uppers 38 $\frac{3}{8}$  cents. Curtailment of mill consumption of Egyptian staples took place in July restricting the demand for two months.

In September the largest crop of Egyptians in history was indicated and the prices were maintained at a premium over American staples, Medium Sakels were 50 cents and Medium

Uppers 35 cents. In October these prices weakened in sympathy with the New York cotton market but were still too high compared with American staples. Further declines followed in November, when Medium Sakels were quoted at 39 cents and Medium Uppers at 35 cents. In December Egyptians reached the lowest levels since 1923. The year closed with Medium Sakels at 33 $\frac{1}{2}$  cents and Medium Uppers at 27 $\frac{5}{8}$  cents for January-February delivery.

### Arizona Cotton

The crop of Pima cotton runs about 15,000 bales and is mostly marketed in advance, therefore it is not a very important factor in the market for extra staples. In January and February it was high under the influence of Egyptian grades. Before the end of the first quarter there were no stocks in the market. This condition continued for the balance of the year. In October there were reports that the new crop was reduced in grade and quantity by unprecedented rains. In sympathy with Egyptians, new crop No. 2 Pimas declined from 49 cents on December 1 to 38 cents December 24.

### Tire Fabrics

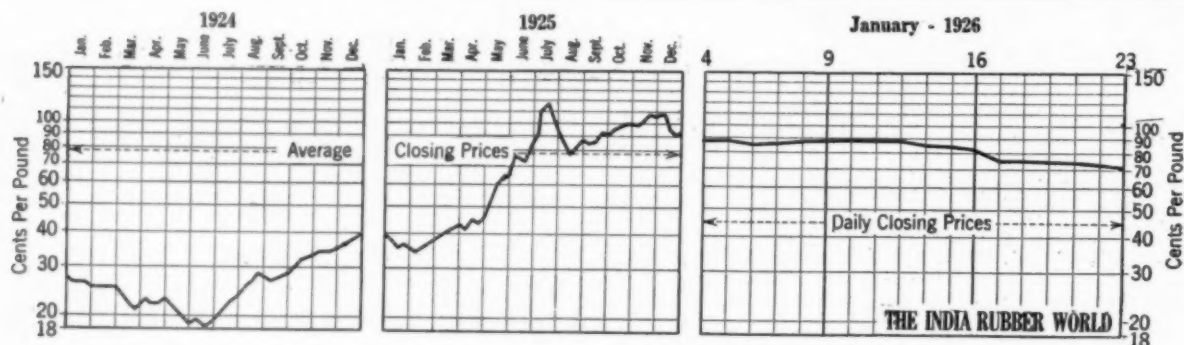
The volume of tire fabrics produced the past year equaled or exceeded the outlook at the beginning of the year of an increase of 10 to 15 per cent over the output of 1924. The tendency of tire manufacturers to displace Egyptian cotton with 1 $\frac{1}{8}$  to 1 $\frac{1}{4}$  inch American cotton at a saving of 5 cents a pound was shown by their placement of contracts in January for 10,000,000 pounds of fabrics for delivery during the first quarter. The January prices were: Egyptian carded cord 74 cents; Peeler carded cord 56 cents; builder fabric, carded Egyptian 73 cents and Peeler 55 cents.

Business in February was rather inactive because tire mills were working on seasonal reduction at 80 per cent of schedule capacity. Fabric prices remained unchanged. In March prices declined 1 to 3 cents a pound on fabrics of American cotton and little business was done for the next two months because the tire companies were well stocked and contracted into the third quarter. Further declines in prices during this quiet period were based on 20-21 cent cotton and resulted in June quotations as follows: carded Peeler 48 cents; carded builder fabric 48 cents, and carded Peeler cords 45 cents.

In August the tire manufacturers were buying sparingly and it was evident that production capacity of the fabric mills was liberally in excess of consumption although that was running large. During the fall months of September and October trade assumed considerable activity and in the latter month fabric mills were sold up on deliveries as far into the future as June, 1926. The popularity of the balloon tire with motorists was responsible for the improved outlook. In November 1 $\frac{1}{2}$  to 2 million pounds of cord were placed and an equal amount of chafers and woven fabrics of cheaper grades were in demand.

The year closed with future business much better assured than it was one year previous. General business prosperity, and particularly the outlook for another record year of production in the automobile and tire industries, promises well for the tire fabric mills in 1926. Tire manufacturers have taken advantage of the comparatively low prices of fabrics and tire yarn by increasing their forward commitments in these materials. Some of the large tire companies have covered their fabric requirements until next fall and there is much more forward buying now than a year ago. Buyers generally believe that the prices of cotton materials are about as low as will be seen for a considerable time. If any change of importance occurs, prices are more apt to become higher within the next half year.

The question of whether the balloon tire will continue to gain in popularity, as it did last year, depends largely on the future price of rubber. Should balloon tires lose some of their popularity, and a counter trend develop toward the high pressure cord and fabric types, rubber prices might become lower and consumption of tire fabrics increase.



Ratio Graph of New York Closing Prices of Spot Ribbed Smoked Sheets

## Review of the Crude Rubber Market

### New York

THE market on spot ribbed smoked sheets opened the new year dull at 90 cents buyers, 91 cents sellers, with a distinct downward tendency evident. The decline gathered headway as the month progressed until at the end of the third week, spot ribs were quoted at 70 cents buyers, 70½ cents sellers. Futures were likewise affected. This marked decline was attributed to several depressing influences such as the weakening in London due to speculative selling, the gain in arrival over consumption tonnage insuring a more comfortable situation with regard to supply for use in the first quarter, tire economy propaganda in the American press and the persistence of consumers in not buying freely.

It is estimated that American consuming demand for January to March has been 90 per cent supplied and 50 per cent bought for April-June deliveries. The excess supply for the needs of the first quarter will go over to the relief of the April and June requirements. Those factories that refrained from buying futures in the past few months will benefit by the heavy decline. In fact there has been some factory selling of rubber the past month.

Reviewed by weekly periods the market showed during the opening week of the month a slackness in inquiries, few actual contracts made and a brisk decline in prices. On indication of strength by the London cables prices stiffened as the week closed but the market continued erratic and trading limited. The closing prices on spot ribs were 90 cents buyers, 91 cents sellers. The week following extremely quiet with little trading or change in either direction. Factory demand was absent most of the week or was very light and hand to mouth. Prices continued to turn weak and slip, falling sharply in all positions both in London and New York. Factory demand was light. Dealers were buying

all the week on the decline covering their short sales. The week closed with spot ribs at 82 cents buyers, 83 cents sellers. The third week opened with spot ribs 75 cents buyers, 76 cents sellers. These prices were not sustained for both buying and selling were spasmodic as prices trended downward. During the week some factory reselling of rubber took place which indicated surplus for the current quarter's needs. At the week end spot ribs were 70 cents buyers, 70½ cents sellers.

First latex crêpe maintained a premium over ribs in the spot position averaging 2 cents for the first 3 weeks, the record standing at the close of each week at 1½, 2½ and 2 cents respectively.

On January 25 the market opened very weak, spot ribs being quoted at 65½ cents sellers and April-June was sold at 64 cents.

Manufacturers of automobiles and tires are awaiting with interest the reaction of the motoring public to car developments and the balloon tire. This attitude serves also the purpose of improving the statistical position of rubber as regards building up the visible supply and incidentally aiding to lower the price to more reasonable levels than in past months.

Parás were dull and weak following the trend of plantations. Balatas were neglected. Importations of all grades in December were 39,519 tons, compared with 24,380 tons one year ago. Plantation arrivals for December were 35,971 tons, compared with 22,595 tons one year ago. Total importations of plantation rubber for twelve months ended December 31, 1925, were 356,731 tons, compared with 295,055 tons for the corresponding period of 1924. Total importations of all grades of rubber for the twelve months ended December 31, 1925, were 384,837 tons, compared with 314,058 tons for the corresponding period of 1924.

### New York Spot Closing Rubber Prices

PLANTATIONS	PRICES IN CENTS, PER POUND															
	December, 1925								January, 1926							
Sheet	21	22	23	24	*25	*26	28	29	30	31	*1	2	4	5	6	7
Ribbed Smoked	88½	90¼	88¼	88¼	91	93	91¼	91¼	87	87¼	85½	86½	87½	87½	88½	88½
Crêpe																
First Latex	89	91	89½	89½	91½	93	91½	91¼	M	87¼	89¼	87¼	88	89¼	90¼	91
No. 2 blanket	86	87	86¼	86¼	88	89	87½	87½	A	84¼	85¼	83½	83	84¼	85½	86
No. 3 blanket	84¼	86¼	85½	85½	87½	88	86¼	87	R	86¼	86¼	82	82¼	84¼	84¼	85
No. 4 blanket	83¼	84	84¼	84¼	86½	87	85	84¼	K	80	81	79½	79½	80½	82¼	84
Thin clean brown	85	86	86	86	87½	88	86¼	86¼	E	86¼	88	86½	86	88	88½	85¼
Roller brown	81¼	83	82½	82½	85	85¼	84¼	84¼	T	83½	84¼	82	82	83½	84¼	83
Off Latex	87	89	88½	88½	90¼	92	90¼	90¼		82¼	83¼	81	81	81½	83¼	89¼

\* Holiday.

## London

The course of prices was generally downward the entire month. The decline between January 4 and January 25 was from 44½d on the former date to 32d on the latter one. The accumulation of London stocks, American factory resale of futures and generally poor buying were the underlying factors. The hostile attitude of American consuming buying interests toward the restriction of the supply has induced caution on the part of speculative trading. Imports have overbalanced shipments in the past few weeks advancing the London stocks to the highest record since May 2, 1925. The weekly record was as follows: January 4, 6,129 tons; January 11, 7,317 tons; January 18, 8,882 tons; January 25, 10,142 tons.

## Singapore

The month began with a steady tone with spot ribs at 45d, a gain of 1d from the close of December. It soon dropped to 40½d on speculative liquidation and then temporarily revived on the renewal of demand for standard grades. A downward movement began the second week, from this there was no reaction upward and prices sagged away daily in sympathy with those in London. January 25 bearish selling sent prices down from 33½d the previous day to 30½d.

## Comparative Low and High New York Spot Rubber Prices

PLANTATIONS	1926*	January 1925	1924
First latex crepe...	\$0.71 @ \$0.92½	\$0.34¼ @ \$0.40¼	\$0.24¾ @ \$0.27
Smoked sheet, ribbed	.70 @ .91	.34¼ @ .40¼	.24¾ @ .26½
PARAS			
Upriver, fine.....	.62 @ .83	.33½ @ .37	.21 @ .23¼
Upriver, coarse.....	.38 @ .64	.27 @ .30½	.17¼ @ .18½
Islands, fine.....	.50 @ .68	.30 @ .34½	.18¼ @ .19¾
Islands, coarse.....			.11 @ .11½
Cametá.....	.34 @ .45	.17½ @ .25½	.11¼ @ .12¾

\* Figured to January 23, 1926.

## British Malaya

## Rubber Exports

An official cablegram from Singapore to the Malay States Information Agency, 88 Cannon street, London, E. C. 4, England, states that the amount of rubber exported from British Malaya in the month of December last totaled 29,863 tons. The amount of rubber imported was 13,964 tons, of which 11,672 tons were declared as wet rubber.

The following are comparative statistics:

	1924		1925	
	Gross Exports Tons	Foreign Imports Tons	Gross Exports Tons	Foreign Imports Tons
January .....	23,844	8,867	19,183	10,132
February .....	19,395	7,440	21,622	10,071
March .....	22,294	8,269	26,836	13,399
April .....	20,551	7,909	22,414	11,750
May .....	19,674	7,259	26,667	12,979
June .....	18,084	7,435	27,894	14,706
July .....	21,670	9,777	24,809	16,192
August .....	22,133	9,776	27,753	12,025
September .....	25,127	9,291	29,425	12,913
October .....	20,270	9,981	28,711	14,986
November .....	22,488	9,617	31,648	14,904
December .....	24,204	11,797	29,863	13,964
Totals.....	259,734	107,418	316,825	158,021

## Distribution

The following is a comparative return of distribution of shipments during the months of November and December, 1925:

	November, 1925 Tons	December, 1925 Tons
United Kingdom.....	6,031	5,790
United States of America.....	21,645	20,761
Continent of Europe.....	1,967	1,993
British possessions.....	563	526
Japan.....	1,423	766
Other foreign countries.....	19	27
Totals.....	31,648	29,863

## Dealers' Stocks of Rubber

An official cablegram from Singapore to the Malay States Information Agency, 88 Cannon street, London, E. C. 4, England, states that dealers' stocks of rubber on November 31, 1925, were in Singapore 16,945 tons, and in Penang 2,843 tons.

## New York Quotations

Following are the New York spot and future rubber quotations, for one year ago, one month ago, and January 23, the current date:

## Plantation Hevea

	January 27, 1925	December 24, 1925	January 23, 1926
Rubber latex (Hevea)....gal.	\$1.25 @ 1.35	\$3.00 @	\$2.50 @
CREPE			
First latex, spot.....	.36 @	.89 @ .90	.71 @ .72
Jan.....	@	.85 @ .86	.70½ @ .71
Apr.-June .....	.35¼ @	.80 @ .82	.68 @ .69
July-Sept. ....	.35¼ @	@	@
Off latex, spot.....	.35¼ @	@	.70 @ .72
Amber No. 2, spot.....	.35 @	.86 @	.69 @ .70
Jan.....	@	.85¼ @	.68 @ .69
Apr.-June .....	.35 @	.81 @	.67 @ .68
July-Sept. ....	.34¾ @	@	.63 @ .64
Amber No. 3, spot.....	.35 @	.84 @	.69 @ .70
Brown, thin, clean.....	.35 @	.85 @	.68 @ .68½
Brown, specky.....	.34 @	.83 @	.67 @ .68
Brown, roll.....	.34¾ @	.81 @	.62 @ .63
Sole crepe.....	.47 @	1.08 @	.95 @

## SHEET

Ribbed, smoked, spot.....	.35½ @	.80 @ .90	.70 @ .70½
Jan.....	.36 @	.85 @ .86	.69 @ .70
Apr.-June .....	.35½ @	.80 @ .82	.67 @ .67½
July-Sept. ....	.35 @	@	.63 @ .64

## East Indian

## PONTIANAK

Banjermassin .....	.08 @	.22 @	.18 @
Palembang .....	@	.22 @	@
Pressed block.....	.13¼ @	.34 @	.28 @
Sarawak .....	@	.22 @	.18 @

## South American

## PARAS

Upriver, fine.....	.33½ @	.82 @	.62 @ .63
Upriver, fine.....	.43 @	.99 @	.55 @
Upriver, medium.....	.30½ @	.76 @	.55 @
Upriver, coarse.....	.26½ @	.64 @	.50 @ .51
Upriver, coarse.....	.40 @	.85 @	.50 @ .51
Islands, fine.....	.30½ @	.68 @	.50 @ .51
Islands, fine.....	@	.95 @	@
Cametá .....	.25½ @	@	.40 @ .41
Acre, Bolivian, fine.....	.34 @	.83 @	.60 @
Acre, Bolivian, fine.....	.44 @	*1.00 @	@
Beni Bolivian.....	.34½ @	.83 @	.61 @
Madeira .....	.34½ @	.84 @	@
Peruvian, fine.....	.33¼ @	.80 @	.58 @
Tapajos, fine.....	.33 @	.69 @	@

## CAUCHO

Upper cauchó ball.....	.27 @	.65 @	.52 @
Upper cauchó ball.....	*.40 @	*.87 @	@
Lower cauchó ball.....	.26 @	.60 @	.53 @

## Maniçobas

Ceará negro heads.....	†.24 @	†.60 @	†.55 @
Ceará scrap.....	†.14 @	†.35 @	†.35 @
Maniçobas 30% guaranty.....	†.26 @	†.58 @	†.55 @
Mangabeira, thin sheet....	†.29 @	.55 @	†.60 @

## Centrals

Central scrap .....	.25 @	.56 @	.45 @ .47
Central wet sheet.....	.22 @	.48 @	.35 @
Corinto scrap.....	.25 @	.56 @	.48 @ .49
Esmeralda sausage.....	.25 @	.56 @	.48 @ .49
Guayule washed and dried.	.30 @	.74 @	.54 @

## Africans

Black Kasai.....	†.27 @	.70 @	.60 @
Black Upper Congo.....	†.27 @	.68 @	.58 @
Red Upper Congo.....	†.26 @	.65 @	.56 @
Kasai Loanda.....	@	@	@
Upper Congo Arumini....	@	@	@
Masai (Konakry).....	@	@	@

## Gutta Percha

Gutta Siak.....	.18 @	.37 @	.29 @ .30
Gutta Soh.....	.27 @	.30 @	.31 @
Red Macassar.....	2.80 @	3.00 @ 3.50	3.00 @

## Balata

Block, Ciudad Bolivar....	.63½ @	.64 @	.63 @ .64
Colombia .....	.53 @	.52 @	.52 @ .53
Panama .....	.52 @	.53 @	.50 @ .51
Surinam, sheet.....	.76½ @	.73 @	.71 @ .74
Surinam, amber .....	.80 @	.80 @	.79 @ .80

## Chicle

Honduras .....	.58 @ .68	.54 @	.64 @
Yucatan .....	.58 @ .68	.55 @	.65 @

\*Washed and dried crepe. †Shipment from Brazil.

†Nominal. ‡Duty paid.



## Reclaimed Rubber

## New York

Although the prices for crude rubber have receded considerably from those of a month ago the reduction has had no influence either in lowering the prices for reclaims or diminishing the demand for them. All reclaiming plants are being operated at capacity production and are far behind in filling orders. Much of the projected new equipment planned for enlarged output will not be installed and ready for operation much before the spring months. Estimated output of reclaims for the current year are set at 190,000 tons, or practically double that of last year.

The quotations on the standard grades remain unchanged from a month ago, except in the case of No. 1 tubes which have advanced 4 cents a pound.

## New York Quotations

January 25, 1926

Auto Tire	Specific Gravities	Price Per Pound
Black	1.21	\$0.11 1/4 @ \$0.11 1/4
Black, washed	1.18	.12 1/4 @ .13
Black selected tires	1.20	.13 @ .13 1/4
Dark gray	1.35	.16 1/2 @ .17
Light gray	1.38	.18 1/2 @ .19
White	1.40	.24 1/2 @ .25 1/2
<b>High Tensile Black</b>		
Super-reclaim, No. 1	1.20	.35 @ .36
No. 2	1.20	.21 @ .22
<b>Shoe</b>		
Unwashed	1.60	.10 1/4 @ .11 1/4
Washed	1.50	.13 1/4 @ .14 1/4
<b>Tube</b>		
No. 1	1.00	.33 @ .35
No. 2	1.18	.21 @ .22
<b>Uncured Tire Friction</b>		
No. 1	1.00	.68 @ .72
No. 2	1.20	.52 @ .55
<b>Miscellaneous</b>		
High grade, red	1.35	.23 1/4 @ .24 1/4
Truck tire, heavy gravity	1.40	.11 @ .11 1/4
Truck tire, light gravity	1.35	.11 1/4 @ .12
Mechanical blends	1.60	.09 @ .10

## Plantation Rubber Exports from Dutch East Indies

## Java and Madura

To—	August		Eight Months Ended August	
	1924 Kilos	1925 Kilos	1924 Kilos	1925 Kilos
Holland	174,000	231,000	1,809,000	1,348,000
Holland for order	59,000	170,000	767,000	1,579,000
Great Britain	626,000	642,000	4,714,000	4,803,000
Great Britain for order		29,000	59,000	307,000
Germany and for order	8,000	172,000	267,000	1,105,000
France and for order	5,000	47,000	249,000	374,000
Belgium and for order		32,000	9,000	162,000
Italy and for order	32,000	59,000	264,000	431,000
Canada				2,000
United States and for order	3,083,000	1,691,000	17,619,000	19,670,000
South America		37,000		193,000
Singapore	274,000	108,000	2,004,000	1,046,000
Hongkong			27,000	3,000
Japan			687,000	65,000
Australia	2,000	86,000	236,000	445,000
Other countries				4,000
Totals	4,263,000	3,304,000	28,711,000	31,537,000
<b>Ports of Origin:</b>				
Tandjong-Priok	1,781,000	1,519,000	10,871,000	12,973,000
Cheribon	10,000	3,000	56,000	28,000
Samarang	302,000	185,000	2,045,000	2,312,000
Sourabaya	1,444,000	1,067,000	11,631,000	11,562,000
Pasuruan	94,000	71,000	901,000	789,000
Probolinggo	166,000	80,000	794,000	717,000
Panarukan	124,000	159,000	947,000	1,436,000
Banjuwangi	125,000	104,000	625,000	738,000
Tjilatjap	127,000	108,000	840,000	966,000

## Belawan

## August

## Eight Months Ended August

To—	August		Eight Months Ended August	
	1924 Kilos	1925 Kilos	1924 Kilos	1925 Kilos
Holland	89,000	201,000	1,233,000	1,432,000
Great Britain	435,000	429,000	2,858,000	4,829,000
Germany	15,000	89,000	263,000	358,000
France		82,000	202,000	227,000
Italy	31,000	8,000	197,000	278,000
Belgium	22,000	5,000	27,000	14,000
United States	2,944,000	1,471,000	18,522,000	12,867,000
British South Africa				14,000
Singapore	82,000	129,000	653,000	699,000
Penang	74,000	175,000	609,000	1,307,000
Hongkong				10,000
Australia	5,000	17,000	12,000	62,000
Other countries	4,000		117,000	
Totals	3,701,000	2,606,000	24,693,000	22,097,000

## The Market for Rubber Scrap

## New York

The scrap market for January has not been active. There has been little buying by reclaimers. Prices for most grades have ruled firm with some advances. The decline of crude rubber to about 80 cents has had no effect on scrap prices.

**BOOTS AND SHOES.** Reclaiming demand has scarcely kept this grade active during most of the month.

**INNER TUBES.** Tubes have been fairly active. Prices are firm and practically unchanged from last month.

**MIXED TIRES.** Mixed tires have moved to fairly active demand. Buying is conservative. Prices have advanced from \$1.00 to \$5.00 a ton, the larger gain being recorded for mixed grade with beads.

**TRUCK TIRES.** Trade in this grade subsided considerably from that of a month ago. The price is firm.

**AIR-BRAKE HOSE AND MECHANICALS.** These grades are very quiet being practically unsought.

## Quotations for Carload Lots

January 25, 1926

<b>Boots and Shoes</b>			
Boots and shoes, black	lb.	\$0.02 1/4 @ \$0.02 3/4	
Red and white	lb.	.01 1/4 @ .01 3/4	
Trimmed arctics, black	lb.	.02 1/4 @ .02 3/4	
Untrimmed arctics	lb.	.01 1/4 @ .01 3/4	
Tennis shoes and soles	lb.	.01 1/4 @ .01 3/4	
<b>Hard Rubber</b>			
No. 1 hard rubber	lb.	.10 @ .12	
Battery jars, black compound	lb.	.02 1/4 @ .02 3/4	
<b>Inner Tubes</b>			
No. 1, floating	lb.	.12 1/4 @ .13 1/4	
No. 2, compounded	lb.	.09 1/4 @ .10 1/4	
Red	lb.	.08 1/4 @ .08 3/4	
Mixed tubes	lb.	.08 1/4 @ .09 1/4	
<b>Mechanicals</b>			
Mixed black scrap	lb.	.01 1/4 @ .01 3/4	
Heels	lb.	.01 @ .01 1/4	
Hose, air-brake	ton	26.00 @ 28.00	
regular	ton	20.00 @ 21.00	
No. 1 red	lb.	.03 1/4 @ .03 3/4	
No. 2 red	lb.	.01 1/4 @ .02 1/4	
Red packing	lb.	.01 1/4 @ .01 3/4	
White, druggists' sundries	lb.	.03 1/4 @ .04	
Mechanical	lb.	.02 1/4 @ .03 1/4	
<b>Tires</b>			
<b>Pneumatic Standard—</b>			
Mixed auto tires with beads	ton	33.00 @ 34.00	
Beardless	ton	43.00 @ 46.00	
White auto tires with beads	ton	42.00 @ 45.00	
Beardless	ton	66.00 @ 67.00	
Mixed auto peelings	ton	42.00 @ 43.00	
<b>Solid—</b>			
Mixed motor truck, clean	ton	54.00 @ 56.00	

CHIEF EXPORTS FROM THE UNITED STATES OF SOLID TIRES WENT during October to the following countries; United Kingdom, 2,303 tires, value \$66,403; Australia, 1,775, value \$58,920; New Zealand, 866, value \$34,377; Cuba, 890, value \$31,465; Japan, 1,156, value \$18,764; and Argentina, 610, value \$18,576.

# The Market for Chemicals and Compounding Ingredients

## New York

SINCE the beginning of the year compounding ingredients in general have been moving steadily into consumption. Contracts have been placed in amounts equal to those of a year ago for the current quarter's manufacturing needs. This is especially true in the case of tires, footwear and mechanical goods. The outlook for tires and tubes is for capacity production this year as last. Business in footwear mechanicals also promises well.

**ACCELERATORS.** Accelerators are divided into two general classes as to speed and are individually differentiated for specific purposes. Trade in all accelerators is increasing and one or more are commonly found in all rubber plants.

**BENZOL.** The supply is sold ahead owing to the heavy consuming demand. This is due not so much to the requirements of the rubber industry but to the paint, and other industries where it is used as a solvent or vehicle, also to the dry cleaning trade.

**CARBON BLACK.** The use of this material in the manufacture of tires and other rubber goods, printing inks, etc., has advanced to remarkable proportions. Official statistics show that 156,514,000,000 cubic feet of gas were consumed to make the carbon black for the past year. This is 14 per cent of the total gas con-

sumption, and 3 times that used for making carbon black in 1922. The 1924 output of carbon black was 186,872,034 pounds valued at \$11,564,936, an increase of 35 per cent over the production of 1923.

Gas restrictions in Louisiana are increasingly irksome to black manufacturers and permits have been refused to new companies. Texas has announced the intention to enforce restriction on gas consumption for black manufacture.

**CLAY.** The demand for high grade clay by rubber manufacturers continues heavy and the leading producers are behind on filling their orders.

**LITHARGE.** Consumers are reported well stocked, and there is a good forward demand.

**LITHOPONE.** The market was dull at the first of the year but is now brisk.

**MINERAL RUBBER.** The steady advance in price of crude rubber to uneconomic levels has stimulated record production of mineral rubber which has proved a most timely substitute in many goods.

**SOLVENT NAPHTHA.** This valuable industrial solvent is so greatly in demand that production, as now, is sold ahead and prices rule somewhat high.

**ZINC OXIDE.** Stocks are well booked ahead, and a large portion of the requirements have been contracted for the first half of 1926.

## Accelerators, Inorganic

Lead, carbonate .....	lb.	\$0.10 1/4 @	
Lead, red .....	lb.	.12 1/4 @	.13
sublimed blue .....	lb.	.10 @	
sublimed white .....	lb.	.10 @	
Lime, R. M. hydrated .....	ton	15.00 @	
Litharge .....	lb.	.11 1/4 @	.12 1/2
Magnesia, carbonate (fact'y) ..	lb.	.06 1/2 @	.07 1/4
calcined, light (bbis.) ..	lb.	.10 @	.25
calcined, md. light (bbis.) ..	lb.	.15 @	
calcined, extra light (bbis.) ..	lb.	.40 @	
calcined, heavy (bbis.) ..	lb.	.04 @	.04 1/2
magnesium, carb., light	lb.	.06 1/2 @	.06 3/4
(bags) ..	lb.		
Orange mineral A.A.A. ....	lb.	.14 1/2 @	
Rubber lead No. 4 .....	lb.	.30 @	

## Accelerators, Organic

A-7 .....	lb.	.75 @	.85
A-19 .....	lb.	.85 @	.95
Aldehyde ammonia .....	lb.	.82 @	.95
Aniline (factory) .....	lb.	.82 @	
B. B. ....	lb.	1.05 @	1.07
Benzidine (base) .....	lb.	.10 @	
Crylene .....	lb.	.10 @	
Paste .....	lb.	.10 @	
D. P. G. salt .....	lb.	.89 @	
Diethyl amine .....	lb.	2.15 @	
Dimethyl amine .....	lb.	2.80 @	
Dimethylaniline .....	lb.	.10 @	
Di-ortho-tolylguanidine .....	lb.	1.08 @	
Di-ortho-tolylthiourea .....	lb.	.95 @	.98
Diphenyl guanidine .....	lb.	1.15 @	
Ethyl aniline .....	lb.	.65 @	
Ethylidene aniline .....	lb.	1.10 @	
Ethyl-o-toluidine .....	lb.	.42 @	.42 1/2
Excellerex .....	lb.	1.50 @	1.75
Formaldehyde aniline .....	lb.	.55 @	
Grasselerator 808 .....	lb.	.80 @	.85
Heptene .....	lb.	.30 @	.37 1/2
Hexamethylene tetramine ..	lb.	.30 @	
Lead oleate (fact'y) .....	lb.	.40 @	5.00
Methylene aniline .....	lb.	.17 1/2 @	
Methylenedianilide .....	lb.	4.80 @	
Monex .....	lb.	.40 @	
No. 999 .....	lb.	.17 1/2 @	
No. 552 Piperidine piperidyl-	lb.		
dithio-carbamate .....	lb.	.40 @	
Para-nitrosodimethylaniline ..	lb.	.40 @	
Paraphenylene diamine .....	lb.	.40 @	
Quinodine .....	lb.	.40 @	
Shawinigan paraldehyde .....	lb.	.40 @	
Super-sulphur, No. 1 .....	lb.	.40 @	
Super-sulphur, No. 2 .....	lb.	.40 @	
Tensilac No. 39 .....	lb.	.65 @	.70
No. 41 .....	lb.	.65 @	
Thiocarbanilide .....	lb.	.27 @	.32
Trimene base .....	lb.	1.20 @	1.35

## New York Quotations

January 25, 1926

Trimene base .....	lb.	\$1.20 @	1.35
Triphenylguanidine .....	lb.	.73 @	
Tuads .....	lb.	.25 @	
Ultrax .....	lb.	2.50 @	
Vulcone .....	lb.	.25 @	
Zimate .....	lb.	.25 @	
<b>Acids</b>			
Acetic 28% (bbis.) .....	100 lb.	\$3.38 @	
glacial (carbonyl) .....	lb.	.10 @	
Oleic (bbis.) .....	lb.	.10 1/2 @	.10 3/4
Cresylic (97% straw color) ..	gal.	.10 @	
(95% dark) .....	gal.	.10 @	
Sulphuric, 66% (carbonyl) ..	lb.	.02 @	
<b>Alkalies</b>			
Caustic soda .....	100 lbs.	3.10 @	3.91
flake, 76% (factory) ..	100 lbs.	.10 @	
solid, 76% (factory) ..	100 lbs.	.10 @	
<b>Anti Oxidants</b>			
Agerite .....	lb.	.85 @	.90
V. G. B. ....	lb.	.70 @	
<b>Colors</b>			
<b>BLACK</b>			
Bone .....	lb.	.10 @	
Carbon:			
A. & W. nonfi. ....	lb.	.40 @	
Aerfloted arrow .....	lb.	.09 1/4 @	.13 1/2
Compressed .....	lb.	.08 @	.13 1/2
Uncompressed .....	lb.	.08 @	.13
Micronex .....	lb.	.10 @	.14
Drop .....	lb.	.12 @	.14
Lampblack .....	lb.	.12 @	.14
Shawinigan .....	lb.	.12 @	.14
Thermatomic carbon .....	lb.	.12 @	.14
<b>BLUE</b>			
A. & W. blue .....	lb.	2.00 @	
Prussian .....	lb.	.34 @	.35
Ultramarine .....	lb.	.08 @	.35
<b>BROWN</b>			
Sienna, Italian .....	lb.	.10 @	
Umber, Turkey .....	lb.	.10 @	

## GREEN

A. & W. green .....	lb.	\$2.00 @	
Chrome, light .....	lb.	.25 @	
medium .....	lb.	.25 @	
dark .....	lb.	.25 @	
commercial .....	lb.	.25 @	
Oxide of chromium .....	lb.	.31 @	.38
T. K. ....	lb.	.31 @	
<b>RED</b>			
Antimony, golden .....	lb.	.16 @	
golden T. K. ....	lb.	.16 @	
pentasulphide .....	lb.	.16 @	
golden R.M.P. No. 7 ..	lb.	.20 @	
golden 15/17 % G. E. ..	lb.	.20 @	
Antimony, sulph. crimson ..	lb.	.27 @	
crimson T. K., 15/17% ..	lb.	.27 @	
crimson T. K., S/F ..	lb.	.27 @	
crimson, 15/17% G. E. ..	lb.	.27 @	
crimson, R.M.P. No. J. ..	lb.	.55 @	
7-A .....	lb.	.37 @	
Z-2 .....	lb.	.20 @	
<b>Antimony</b>			
A. & W. red (4 shades) ..	lb.	2.50 @	
purple .....	lb.	2.00 @	
Sulphuret vermilion ..	lb.	.37 1/2 @	
<b>Iron oxides</b>			
bright red pure domestic ..	lb.	.12 @	
bright red pure English ..	lb.	.14 @	
bright red reduced Eng-	lb.	.11 @	
lish .....	lb.	.11 @	
bright red reduced domes-	lb.	.10 @	
tic .....	lb.	.10 @	
Indian (maroon), red pure	lb.	.11 @	
domestic .....	lb.	.11 @	
Indian (maroon), red pure	lb.	.11 1/2 @	.12
English .....	lb.	.11 1/2 @	
Indian (maroon), red re-	lb.	.10 @	
duced English .....	lb.	.10 @	
Indian (maroon), red re-	lb.	.08 @	.10
duced domestic .....	lb.	.08 @	
Oximony .....	lb.	.13 1/4 @	
Spanish red oxide .....	lb.	.02 1/2 @	.04
Venetian reds .....	lb.	.02 1/4 @	.05
Para toner .....	lb.	.10 @	
Toluidine toner .....	lb.	.10 @	
Vermilion, English quick-	lb.	1.57 @	
silver .....	lb.	1.57 @	
<b>WHITE</b>			
Albalith .....	lb.	.05 1/4 @	.06 1/4
Aluminum bronze .....	lb.	.06 1/4 @	
Lithopone .....	lb.	.06 1/4 @	
Azolith .....	lb.	.05 1/4 @	.06 1/4
Sterling .....	lb.	.05 1/4 @	.06 1/4
<b>Zinc oxide</b>			
AAA (lead free) .....	lb.	.07 1/4 @	.07 1/4
<b>Azo (factory):</b>			
ZZZ (lead free) .....	lb.	.07 1/4 @	.07 1/4
ZZ (5% leaded) .....	lb.	.06 1/4 @	.07 1/4
Z (8% leaded) .....	lb.	.08 @	.08 1/4

French process, Florence brand		
Green seal .....	lb.	@
Red seal .....	lb.	@
White seal .....	lb.	\$0.12 1/4 @ .12 1/4
Horse Head brands		
Selected .....	lb.	.07 1/4 @ .08 1/4
Special .....	lb.	.07 1/4 @ .08 1/4
XX red .....	lb.	.07 1/4 @ .07 1/4
Leaded brands		
Lehigh .....	lb.	.08 @ .08 1/4
Standard .....	lb.	.06 1/4 @ .07 1/4
Sterling .....	lb.	.08 @ .08 1/4
Superior .....	lb.	.08 @ .08 1/4
Palmerton process		
Kadox, black .....	lb.	.10 1/4 @ .11 1/4
blue .....	lb.	.09 1/4 @ .10 1/4
red .....	lb.	.08 1/4 @ .09 1/4
YELLOW		
A. & W. yellow .....	lb.	2.50 @
Arsenic .....	lb.	.70 @ .75
Chrome .....	lb.	.17 1/2 @ .18 1/2
Ochre, domestic .....	lb.	@
imported .....	lb.	@
Oxide, pure .....	lb.	.08 @ .10

## Compounding Ingredients

Aluminum flake (sacks c.l.)	ton	21.85 @
(sacks l.c.l.)	ton	24.50 @
Aluminum silicate .....	ton	@
Ammonia carbonate .....	ton	@
Are-sol .....	ton	@
Asbestos .....	ton	13.50 @ 17.50
Barium, carbonate (bbl.)	ton	@
dust .....	lb.	@
Barytes, imported .....	ton	30.00 @
water ground and floated .....	ton	23.00 @ 25.00
Basofor .....	lb.	.04 1/2 @
Blanc fixe, dry .....	ton	75.00 @ 85.00
pulp .....	ton	54.00 @ 60.00
Chalk .....	ton	@
Clay, Dixie .....	ton	@
Blue ribbon (c. l. fcty.)	ton	14.00 @
Blue Ridge, dark .....	ton	@
light .....	ton	@
Catalpo (facty.) .....	ton	@
China .....	lb.	.01 1/2 @
English .....	lb.	@
Langford .....	ton	@
Mineral Flour (Florida)	ton	17.00 @ 20.00
Seminole (Georgia) .....	ton	16.00 @
White flake .....	ton	18.00 @
Cotton flock, black .....	lb.	.11 @ .12 1/2
light-colored .....	lb.	.13 @ .15
white .....	lb.	.15 @ .21
Cotton linters clean mill run	lb.	@
Glue, high grade .....	lb.	@
medium .....	lb.	@
low grade .....	lb.	@
Graphite, flake .....	lb.	@
Mica, amber (facty.) .....	ton	.05 @
water ground .....	ton	@
Pumice stone, powdered .....	ton	@
Rotten stone (bbl.) .....	ton	@
Slate flour (facty c. l.)	ton	8.00 @ 9.00
Soap bark, cut .....	ton	@
Soapstone .....	ton	15.00 @ 22.00
Sodium bicarb. (bbls.)	100 lbs.	3.00 @
Starch, pead. corn .....	ton	@
Buffalo .....	(bbls.) 100 lbs.	3.49 @ 3.59
(bags) 100 lbs.		3.22 @ 3.32

## Chemical Market—Continued

## New York Quotations

January 25, 1926

## Compounding Ingredients—Continued

Talc, domestic .....	ton	@
French .....	ton	@
Terra blanche .....	ton	@
Whiting, alba .....	ton	\$12.00 @
domestic No. 33 .....	ton	10.00 @
chalk, L. H. B. .....	ton	17.00 @ 25.00
commercial (facty.)	100 lbs.	.90 @ 1.00
English, cliffstone .....	100 lbs.	1.60 @ 2.50
gliders (bolted) .....	100 lbs.	@
Nelco .....	ton	12.00 @ 22.50
Paris White .....	100 lbs.	@
Perfection .....	ton	@
Quaker .....	ton	@
Snow-white, E. L. B. .....	ton	@
Sussex .....	ton	@
Westminster Brand .....	100 lbs.	1.60 @ 2.00
Witco (c.l.) (facty.)	ton	12.00 @
Wood pulp, XXX (facty.)	ton	35.00 @
X (facty.)	ton	25.00 @

## Mineral Rubber

Genasco (facty.) .....	ton	50.00 @ 52.00
Gilsonite (facty.) .....	ton	37.14 @ 39.65
Granulated M. R. .....	ton	@
Hydrocarbon, hard .....	ton	@
Hydrocarbon, soft .....	ton	@
Mineral flour .....	ton	@
Ohmlac Kapak, M.R. .....	ton	70.00 @ 80.00
K-4 .....	ton	175.00 @
320/340 m. p. hydrocarbon	ton	47.00 @ 52.00
300/310 m. p. hydrocarbon	ton	42.00 @ 47.00
Paradura (facty.) .....	ton	70.00 @ 72.50
Pioneer, M. R. solid (fac.)	ton	@
M. R. granular .....	ton	@
Robertson, M. R. solid	ton	@
(facty.) .....	ton	35.00 @ 75.00
M. R. gran. (facty.)	ton	42.00 @ 80.00

## Oils (Softeners)

Aviolas compound .....	lb.	.12 @ .14
Castor, No. 1, U. S. P. .....	lb.	.14 1/2 @
No. 3, U. S. P. .....	lb.	.14 @
Corn, crude (bbls.) .....	lb.	.11 1/4 @
Cotton, summer yellow .....	lb.	.12 @
Cycline .....	gal.	.27 @ .31
Glycerine .....	gal.	@
Linsed, raw .....	gal.	@
Liquid rubber .....	lb.	.12 @
Moldrite .....	lb.	@
Palm lags .....	lb.	.08 1/4 @
niger .....	lb.	.08 1/2 @
Peanut, crude .....	lb.	.12 @
refined .....	lb.	.14 @
Petrolatum, standard .....	lb.	@
sticky .....	lb.	@
Pine, steam distilled .....	gal.	.60 @ .68
Rapeseed, refined .....	gal.	.98 @
blown .....	gal.	@
Rosin .....	gal.	.65 @ .78 1/2
Soya bean .....	lb.	@
Syntheticite .....	lb.	.06 @
Tar .....	gal.	.32 @ .40
Woburn .....	lb.	.05 @

## Resins and Pitches

Pitch, Burgundy .....	lb.	\$0.07 1/4 @
coal tar .....	lb.	.02 @ .04
Fluxol hardwood .....	lb.	.03 1/4 @
pine tar .....	lb.	.07 1/2 @
ponto .....	lb.	16.20 @
Rosin, K (bbl.) .....	280 lbs.	13.50 @
strained (bbl.) .....	280 lbs.	.70 @
Shellac, fine orange .....	lb.	15.00 @ 18.00
Tar, pine, retort .....	bbl.	16.00 @ 18.50
kiln .....	bbl.	@

## Solvents

Benzol (90%, 7.21 lbs. gal.)		@
pure .....		@
Carbon bisulphide (10.81 lbs. gal.)		@
99.9% pure (drums) .....		@
tetrachloride (13.28 lbs. gal.)		@
99.7% pure (drums) .....		@
Gasoline		
No. 303 .....	gal.	.21 @
Tankcars .....	gal.	.24 @
Drums, c. l. .....	gal.	.27 @
Motor gas (steel bbls.)	gal.	@
Naphtha		
68° Bé, 122°, 524° .....	gal.	.20 @
70° Bé, 114°, 314° .....	gal.	.21 @
71° Bé, 112°, 304° .....	gal.	.22 @
Turpentine, spirits .....	gal.	1.10 @
wood, steam distilled .....	gal.	1.00 @

## Substitutes

Black .....	lb.	.08 1/2 @ .14
Brown .....	lb.	.09 @ .16
White .....	lb.	.09 @ .17
Brown T. K. .....	lb.	@
White T. K. .....	lb.	@

## Vulcanizing Ingredients

Sulphur chloride (drums) .....	lb.	.06 @
Soft rubber, 100% .....		@
pure (c.l.) .....	100 lbs.	2.50 @ 2.75
(c.l.) .....	100 lbs.	2.80 @ 3.30
Sulphur, Brooklyn brands		
Refined velvet (bbls.)	240 lbs.	3.05 @ 3.30
(bags) 150 lbs.		2.80 @ 3.05
Superfine flour (bbls.)	210 lbs.	2.65 @ 2.95
(bags) 100 lbs.		2.30 @ 2.60
Tire brand, superfine	100 lbs.	@
Tube brand, velvet	100 lbs.	@
(See also Colors—Antimony)		

## Waxes

Wax, beeswax, white, com.	lb.	.55 @
carnauba .....	lb.	.38 @ .50
ceresine, white .....	lb.	.12 1/2 @
montan .....	lb.	@
ozokerite, black .....	lb.	.30 @
green .....	lb.	.32 @
Paraffin		
122/124 white crude scale	lb.	.05 1/4 @
124/126 white crude scale	lb.	.05 1/4 @
120/122 fully refined .....	lb.	.06 @
125/127 fully refined .....	lb.	.06 1/4 @

## Inventory—Production—Shipments of Pneumatic Casings—Inner Tubes—Solid Tires—Rubber and Fabric Consumption

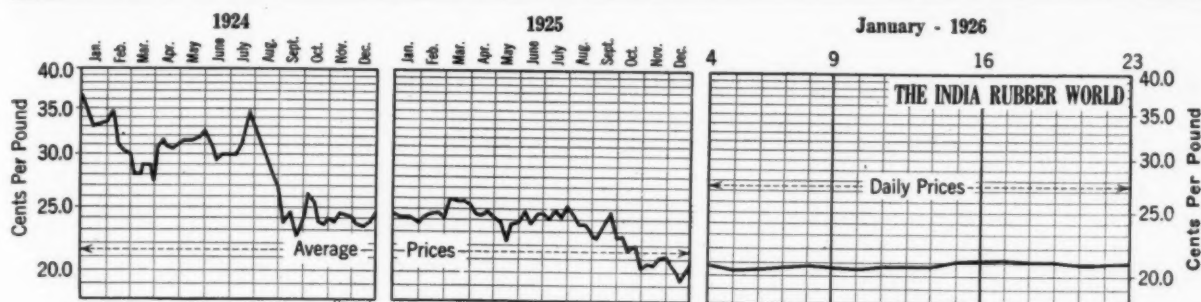
High Pressure Pneumatic Casings							Balloon Casings			Solid and Cushion Tires			
Cord			Fabric										
Inventory	Production	Total Shipments	Inventory	Production	Total Shipments		Inventory	Production	Total Shipments	Inventory	Production	Total Shipments	
1925						1925							
January	3,562,701	1,999,410	1,618,169	1,498,309	1,009,201	908,260	January	901,031	546,146	563,315	196,774	52,464	44,814
February	4,108,082	1,996,488	1,458,136	1,710,425	944,168	718,626	February	877,851	740,106	764,874	191,733	53,058	55,646
March	4,369,673	2,000,939	1,708,352	1,836,228	738,625	616,350	March	926,303	1,217,367	1,168,277	175,010	56,751	69,833
April	4,035,061	1,816,641	2,012,794	1,700,699	562,449	661,907	April	1,080,594	1,626,369	1,448,974	166,389	66,059	70,950
May	3,610,304	1,815,969	2,266,073	1,461,301	480,339	714,728	May	1,386,840	1,803,607	1,484,877	156,175	75,473	86,785
June	2,870,827	1,894,704	2,610,409	1,033,840	439,397	869,058	June	1,527,684	1,729,121	1,573,062	153,098	85,036	90,942
July	3,502,055	2,181,645	2,479,160	658,814	447,145	809,290	July	1,654,629	1,561,806	1,434,981	152,587	75,228	74,715
August	2,895,254	2,409,070	1,999,548	527,108	377,813	516,985	August	2,023,580	1,418,347	1,053,625	170,419	75,166	57,117
September	3,227,418	2,173,276	1,826,432	482,179	347,037	429,438	September	2,051,377	1,235,022	1,171,157	181,240	65,309	51,633
October	2,957,380	1,832,554	2,141,424	382,734	346,163	404,619	October	1,662,673	1,200,389	1,602,880	168,712	50,365	70,066
November	3,082,241	1,634,710	1,299,843	458,124	336,895	259,008	November	1,675,995	1,200,399	1,194,457	156,180	46,646	59,959

High Pressure Inner Tubes			Balloon Inner Tubes			Cotton and Rubber Consumption casings, tubes, solid and cushion tires				
1925	Inventory	Production	Total Shipments	Inventory	Production	Total Shipments	Cotton Fabric Pounds		Crude Rubber Pounds	
January	7,756,467	4,171,812	3,643,841	920,728	585,243	528,533	January	12,310,822	42,170,869	
February	8,815,514	3,977,721	2,989,606	951,539	776,855	738,734	February	13,363,986	41,720,847	
March	9,540,993	3,895,688	3,120,624	1,135,649	1,354,434	1,162,910	March	15,040,609	46,365,630	
April	8,726,603	3,259,524	3,556,258	1,486,546	1,879,007	1,471,976	April	14,902,337	48,154,633	
May	7,535,418	3,225,218	4,513,460	1,840,425	1,908,973	1,516,774	May	14,984,561	47,639,298	
June	5,910,609	3,566,099	5,173,477	1,896,178	1,640,465	1,600,410	June	15,840,498	53,366,781	
July	4,677,647	4,297,495	5,357,295	1,798,919	1,360,719	1,497,747	July	16,013,761	53,197,164	
August	4,970,360	4,436,578	4,102,160	1,982,971	1,276,717	1,089,752	August	15,758,123	52,170,657	
September	5,351,879	4,135,336	3,801,442	2,110,958	1,304,857	1,197,397	September	14,025,320	46,745,268	
October	4,742,309	3,653,711	4,227,167	1,802,436	1,305,315	1,656,446	October	12,446,040	42,211,384	
November	5,309,395	3,430,209	2,798,821	1,809,105	1,269,137	1,255,966	November	11,348,919	38,875,816	

Compiled from Rubber Association figures.

Compiled from Rubber Association figures.





Ratio Graph of New York Daily Prices of Spot Middling Upland Cotton

## The Market for Cotton and Other Fabrics

### New York

**AMERICAN COTTON.** The final government crop report estimate set the 1925 crop at 15,750,000 bales, the largest in several years. The market discounted this crop, with prices stabilizing around 21 cents early in January. Expectation of the broadening of the world demand also was another factor sustaining the price between 20 and 21 cents about the middle of January. The market simply is marking time awaiting some new impulse to guide prices. It is now between crops, the old being known and discounted and the prospects for the new one soon to become the ruling feature. The general opinion favors a reduction in acreage and efforts are being made to effect a reduction to three-quarters of the acreage of the past season's planting. Plans of this sort, however, never fully materialize. The more effective feature now holding the market and leading to buying is the conviction that with a 16 million bale crop at least  $2\frac{1}{2}$  to 3 million bales are undeliverable and not desired for spinning.

**EGYPTIAN COTTON.** The feature in the long staple market at the present time is the attempt of the Egyptian Government to maintain the price of Egyptian cotton. In this effort the government has undertaken to purchase in open market not to exceed 50,000 cantars, approximately 70,000 bales, at not over \$36.00 per cantar, about 36 cents a pound, for Fully Good Fair Sakel. The government's announced intention is to at least maintain a price for Sakel 75 per cent above the price of American cotton. To date the Egyptian government has bought over 10,000 bales and since the announcement prices have been remarkably steady, but the general feeling in Alexandria is that present prices cannot be maintained unless the spinners of the world buy much more Egyptian cotton than has been contracted for in recent weeks. The Egyptian

Government has issued a decree restricting the planting of cotton this year to one third the cultivable area.

January 2, the Boston c.i.f. quotations were, Medium Sakellaridis 35½ cents; Medium Uppers 28¼ cents for January-February shipment. Prices rose during the month. January 23 Boston quotations were Medium Sakellaridis, 37½ cents; Medium Uppers 29½ cents for February-March shipment.

### Cotton Fabrics

**DUCKS, DRILLS AND OSNABURGS.** The demand for hose and belting ducks has increased materially since the first of the year. Revival of activity was specially noted in enameling duck and numbered ducks. Interest in drills and osnaburgs has been only moderate during the month.

**SHEETINGS.** Mills are holding prices remarkably firm considering the small amount of buying. Buyers seem to continue the policy of hand to mouth buying. Most orders are for small quantities for immediate requirements. This year's crop of cotton contains much tinged stock and buyers believe that fabrics made from such stock will tend to bring lower prices.

**TIRE FABRICS.** There have been no recent material changes in the market. Fabrics are very cheap. Buying has been very restricted the past month but further inquiries are expected within the next 30 or 60 days. The tire fabric market continued to quote nominal prices on cords. The 17¼ ounce square woven made of peeler cotton continued at 10 cents under the carded Egyptian. Fabric mills are well supplied with orders applying on future contracts and early in the month were operating at 3 shifts a day. Tire manufacturers and fabric mills are waiting for the reaction of the public to confirm the permanence of the balloon tire.

### Drills

38-inch 2.00-yard	.....yard	\$0.20 @
40-inch 3.47-yard	.....	.11½ @
52-inch 1.90-yard	.....	.21½ @
60-inch 1.52-yard	.....	.26½ @

### Ducks

38-inch 2.00-yard	.....yard	.20½ @
40-inch 1.47-yard	.....	.27½ @
72-inch 16.66-ounce	.....	.45½ @
72-inch 17.21-ounce	.....	.47½ @

### MECHANICAL

Hose and belting	.....pound	.38 @
Specials	.....	.42 @

### TENNIS

52-inch 1.35-yard	.....yard	.32½ @
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### Hollands

#### DEAD FINISH

Standard, 37-inch	.....yard	.19½ @
42-inch	.....	.23½ @

#### RED SEAL

36-inch	.....	.18 @
40-inch	.....	.19 @
50-inch	.....	.30 @

#### FIAT FINISH

Imperial, 36-inch	.....	.15½ @
40-inch	.....	.17½ @

### New York Quotations

January 25, 1926

#### GOLD SEAL

40-inch	.....	\$0.29 @
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#### Osnaburgs

40-inch 2.35-yard	.....yard	.17 @
40-inch 2.48-yard	.....	.16½ @
40-inch 3.00-yard	.....	.13½ @
37-inch 2.42-yard	.....	.16½ @

#### Raincoat Fabrics

##### COTTON

Bombazine 64 x 60	.....yard	.13 @
Bombazine 60 x 48	.....	.12 @
Plaids 60 x 48	.....	.12½ @
Plaids 56 x 44	.....	.12½ @
Surface prints 60 x 48	.....	.13 @
Surface prints 64 x 60	.....	.14 @

#### Sheetings, 40-inch

40 x 48, 2.50-yard	.....yard	.14½ @
48 x 48, 2.85-yard	.....	.12½ @
64 x 68, 3.15-yard	.....	.13½ @
56 x 60, 3.60-yard	.....	.12 @
48 x 44, 3.75-yard	.....	.10½ @

### Sheetings, 36-inch

48 x 48, 5.00-yard	.....yard	\$0.08 @
40 x 40, 6.15-yard	.....	.06¼ @

### Tire Fabrics

#### SQUARE WOVEN 17¼-ounce

Egyptian, karded	.....pound	.56 @ .58
Peeler, karded	.....	.46 @ .47

#### CORD 23/3/3

Egyptian, combed	.....pound	.63 @ .65
Egyptian, karded	.....	.56 @ .58
Peeler, combed, 1½-in.	.....	.66 @ .68
Peeler karded, 1½-in.	.....	.47 @ .49

#### CORD 13/3/3

Peeler karded	.....pound	.44 @ .46
8.25-oz. Peeler, karded (2 ply)	.....	.44 @ .46

#### LENO BREAKER

8-oz. Peeler, karded	.....pound	.46 @ .47
10-oz. Peeler, karded	.....	.46 @ .47

#### CHAFER

8.25-oz. Peeler, karded (2 ply)	.....pound	.45 @ .46
9.5-oz. Peeler, karded (4-ply)	.....	.47 @ .48
12-oz. Peeler, karded	.....	.47 @ .48
14-oz. Peeler, karded	.....	.47 @ .48

## The Cotton Outlook

**A**UTHORITIES who are studying cotton production and consumption find that, notwithstanding the unusually large American crop in 1925, there is apparently no oversupply, a strong demand continuing for both low-grade and high-grade cottons. World consumption of cotton has been increasing rapidly in recent years and is continuing to expand. Furthermore, world stocks have been at decidedly subnormal levels and large amounts of cotton are required to bring them back to a comfortable working basis and provide more stable markets.

Somewhat similar opinions appear in the weekly analysis prepared for *The Textile World* by Dr. Lewis H. Haney, director of the New York University Business Research Bureau:

It seems certain that the consumption of cotton during the current season will be very large. Various estimates are made, but the general opinion appears to be that the consumption is likely to exceed 14,500,000 bales and may run as high as 14,750,000 bales. The consumption in 1925 was the largest in a good many years and there is abundant reason to expect continued gains. The very fact that cotton is now relatively cheap,—the lowest in four years,—is one of the best reasons. Another lies in the favorable outlook for prosperity in the United States during the coming year. Still another is to be found in the recovery of European industry. As regards American cotton, a point of no small importance is the reduction in the yield in India. It is estimated that India will produce about 800,000 bales less than last year. This will mean a considerable increase in demand for American cotton, notably in Japan.

### World Cotton Crop of 1925 Put at 26,550,000 Bales

Preliminary estimates and prospects of cotton crops in the leading producing countries point to a total production of all kinds of cotton for mill use, exclusive of American linters, of about 26,550,000 equivalent 500-pound bales in 1925 as against 23,782,000 for the previous year. The Egyptian crop for this year is estimated at approximately 1,629,000 equivalent 500-pound bales, against 1,459,000 last year, an increase of 170,000. The Indian crop is tentatively estimated at 5,000,000 bales this year against 4,798,000 last year, an increase of 200,000 bales. The Russian crop is estimated at 1,010,000 bales, against 453,000 last year, an increase of 557,000. In the absence of reliable data at this time the commercial crop of China is carried tentatively the same as last year at 1,400,000, the Brazilian at 462,000, and the Peruvian at 200,000. The Mexican crop is the only fairly large one showing a reduction, this being estimated at 211,000 bales this season, against 285,000 last season.

### Egyptian Government to Buy Up Cotton

According to cable reports received, the Egyptian Government has decided to buy cotton to the extent of 500,000 cantars, the equivalent of 70,000 bales, on the basis of Fully Good Fair Sakel one and three quarters times the value of New York contracts. No cotton is to be bought however at a price higher than 36 Tallaris per cantar and purchases are not to exceed 1,000 bales a day.

In referring to this situation *The Daily News Record* quotes an authority as saying that the cotton acreage, particularly of Lower Egypt, will be little affected by the new law, as the penalties to be imposed are too mild. It is also believed to be too late in the season to substitute another crop for cotton, or that the cotton acreage can be modified substantially. Another authority states:

It is said to be the desire in Egypt to sustain the price of Fully Good Fair Sakel cotton at about 36 cents. A very interesting economic situation is hereby presented. It appears that the Egyptian Government not only has the right to operate in the future markets and spot markets, but is also empowered to punish by fines and imprisonment farmers who violate its regulations as to acreage.

The government, having become an owner of \$17,000,000 worth

of Sakel cotton, may regulate planting in its own immediate interest and without regard to the world's requirements. In this country, many farmers and their advisers are asking for laws that will authorize our government to become a merchant in grain and cotton. Are they prepared to accept the corollary?

### Changes Proposed in Tire Fabric Freight Rates

Proposed changes in freight rates, especially in connection with the cotton goods industry, came up for consideration on January 14 before the Consolidated Official Classification Committee. At this hearing the Manville-Jenckes Co., Pawtucket, Rhode Island, one of the leading American manufacturers of tire fabric, presented its case, claiming that a new and separate classification for tire fabrics, which would consider carload shipments, should be established. Corresponding with the increase in recent years in the production of tires, the shipments of tire fabric have been increasing steadily, and less-than-carload quantities are not as much in evidence.

For a great many years, in the Official Classification Territory there has been one set of rates for both carload and less than carload. There were estimates that the change proposed would mean an increase in distribution cost to a good part of the cotton goods industry of 30 to 40 per cent.

The tire manufacturers shipped most of their fabrics in carload lots and have been trying to get consideration for this. On the other hand, the representatives of the cotton goods converting business contend that the carload shipments of the rubber people constitute only about 2 per cent of the total production of cotton goods in the country.

Aside from increased cost of distribution from points in the Official Classification Territory, which would have a harmful influence, there also was brought out that this proposed rate would seriously affect business which has been going to Fall River and other Eastern mill centers.

### U. S. RUBBER PLANTATION HOLDINGS

The United States Rubber Co., has purchased an additional holding of 5,700 acres in the island of Sumatra, Dutch East Indies, and negotiations include still other tracts in Sumatra of 12,500 acres. An area in Kedah, Malaya, of 6,300 acres has been owned by the United States company since July, 1925.

Excluding the area still under negotiation, the company has 124,014 acres of rubber plantation lands representing an approximate investment of \$25,000,000. Of these, 73,086 acres equal to 59 per cent of the total, are planted with more than 7,000,000 rubber trees.

About 68 per cent of these planted areas are today under production, and more than 20,000 men are continuously employed on the plantations. Of the company's holdings, 94,313 acres are in the Dutch East Indies, and 29,691 acres are in Malaya.

In 1925 the company's plantations yielded approximately 20,000,000 pounds of rubber. In six years production will have increased 75 per cent through the planting of further areas, maturity of trees already in bearing and by production from trees reaching the bearing stage.

### EXPORTS OF AUTO CLOTH AND RUBBERIZED FABRIC

During the first ten months of 1925 American manufacturers exported waterproofed automobile cloth and rubberized fabric to the value of \$1,236,565, the chief markets for such goods being: Canada, with a value of \$228,003; United Kingdom, \$215,127; Argentina, \$148,041; Australia, \$113,007; and Mexico, \$57,033.

## Metal Market Review

## New York

In these first weeks of the new year a feeling of confidence is evident in all the markets, and the outlook appears to be excellent for a continuation of the prosperity enjoyed during 1925. Particularly is this applicable to the steel industry, where ingot production reached during the past year a new high figure of almost 44,000,000 tons, outstripping the previous high record for 1917 of 43,619,000 tons.

**ALUMINUM.** Early in January the Aluminum Company of America reduced by one cent a pound its price of virgin metal, 98 to 99 per cent pure, to 27 cents delivered.

**ANTIMONY.** Due to speculation, the prices for Chinese metal are said to be a little easier, with spot and January delivery, as well as January-February arrival quoted at 24.25 cents, New York, duty paid.

**COPPER.** There has been during the last half of January considerable demand for copper, with important shipments to the Middle West, although exports to Europe still remain light. *The Iron Age* says in regard to the copper situation: "Stocks of refined copper at the beginning of January, 1926, were less than one-half of what they were on January 1, 1925. Production is regarded as under satisfactory regulation at present and shipments into consumption last year were 130,000,000 pounds larger than in 1924 and constitute a record."

**LEAD.** Prices continue firm and with very little change. It is interesting to note that of eleven important non-ferrous metals only two, copper and lead, are selling lower than a year ago.

**STEEL.** In regard to encouraging conditions in the steel industry *The New York Times* says: "If the steel production of the past three months is simply duplicated in the next three months, the six months will show 5 per cent more production than in the same six months a year earlier. In most lines also prospects are for some increase in consumption."

**TIN.** Prices for tin continue high, and consuming demand is restricted to metal urgently needed.

**ZINC.** World production of zinc last year was said to be the highest on record at 1,113,000 metric tons, but consumption also broke records, and in 1925 actually exceeded output. The 1925 production of slab zinc in the United States totaled approximately 590,000 tons, of which about 65,000 tons were exported.

## Basic Metals

January 21, 1926

	Cents per pound
Aluminum, virgin, 98@99 per cent.....	27.00 @
Antimony.....	22.25 @22.75
Copper—Lake, spot.....	14.125 @14.25
Electrolytic, spot.....	14.00 @14.125
Castings, refinery.....	13.625 @
Lead, spot, New York.....	9.25 @ 9.50
Lead, spot, East St. Louis.....	9.10 @ 9.15
Nickel, ingot, pound.....	35.00 @
Tin, spot.....	61.75 @
Zinc, spot, New York.....	8.75 @ 8.80
Zinc, spot, East St. Louis.....	8.40 @ 8.45

## Steel Wire

BASE PRICE\* ON NO. 9 GAGE AND COARSE

	Cents per pound
Bright basic.....	4.25 @ 4.50
Annealed soft.....	4.50 @ 4.75
Galvanized annealed.....	5.15 @ 5.40
Coppered basic.....	5.15 @ 5.40
Tinned soft Bessemer.....	6.15 @ 6.40

\*Regular extras for lighter gage.

## Copper Wire

BASE PRICE F. O. B. FACTORY

	Cents per pound
Bare copper wire.....	16.375 @
No. 6 B. & S. gage.....	16.375 @
No. 8 B. & S. gage.....	16.375 @
No. 14 B. & S. gage.....	18.375 @

REPORT OF RIMS INSPECTED AND APPROVED BY THE  
TIRE AND RIM ASSOCIATION OF AMERICA, Inc.

Size	December, 1925		Year 1925	
	Number	Per Cent	Number	Per Cent
Clincher Rims				
24 x 3.....	1,095	0.1	15,439	0.1
26 x 3.....	7,833	0.5	95,200	0.4
28 x 3.....	48	0.0	4,105	0.0
30 x 3.....	.....	.....	212,043	0.8
30 x 3½.....	314,559	19.6	4,997,398	19.2
31 x 4.....	9,302	0.6	622,885	2.4
Straightside Rims (Pass.)				
25 x 3½.....	2,110	0.1	2,570	0.0
27 x 3½.....	.....	.....	2,783	0.0
28 x 3½.....	625,080	38.6	8,643,472	33.3
29 x 3½.....	.....	.....	144,390	0.6
30 x 3½.....	29,609	1.9	616,683	2.4
32 x 3½.....	.....	.....	26,514	0.1
28 x 4.....	135,940	8.5	2,946,938	11.3
29 x 4.....	116,976	7.3	1,639,874	6.3
30 x 4.....	.....	.....	289,753	1.1
31 x 4.....	.....	.....	1,515	0.0
32 x 4.....	27,226	1.7	316,147	1.2
33 x 4.....	1,015	0.1	27,214	0.1
34 x 4.....	.....	.....	759	0.0
29 x 4½.....	64,160	4.0	551,720	2.1
30 x 4½.....	79,059	5.0	1,628,419	6.3
31 x 4½.....	3,778	0.2	251,259	1.0
32 x 4½.....	43,379	2.7	637,800	2.4
33 x 4½.....	.....	.....	1,854	0.0
34 x 4½.....	5,434	0.3	96,924	0.4
36 x 4½.....	.....	.....	154	0.0
30 x 5.....	32,118	2.0	402,899	1.6
31 x 5.....	22,895	1.4	464,143	1.8
33 x 6.....	18,461	1.2	109,107	0.4
Truck Rims				
30 x 5.....	41,817	2.6	840,768	3.2
34 x 5.....	7,584	0.5	109,871	0.4
32 x 6.....	12,663	0.8	162,050	0.6
36 x 6.....	2,045	0.1	75,309	0.3
34 x 7.....	.....	.....	22,612	0.1
35 x 7.....	50	0.0	50	0.0
36 x 7.....	27	0.0	27	0.0
38 x 7.....	.....	.....	8,590	0.0
36 x 8.....	197	0.0	10,904	0.0
40 x 8.....	3,124	0.2	16,174	0.1
40 x 10.....	13	.....	815	0.0
44 x 10.....	13	0.0	718	0.0
Totals.....	1,607,597	100.0	25,997,849	100.0
	Per Cent		Per Cent	
Motorcycle.....	0.6	Motorcycle.....	0.5	
Clincher.....	20.2	Clincher.....	22.4	
Balloon.....	68.3	Balloon.....	66.8	
Regular S. S.....	6.7	Regular S. S.....	5.6	
20" Truck.....	3.6	20" Truck.....	4.0	
24" Truck.....	0.6	24" Truck.....	0.7	

\* Balloon casings.

## RUBBER PRICE ADVANCES FEATURE OF IMPORTS

In a review of American commerce for the year 1925, Julius Klein, director of the Bureau of Foreign and Domestic Commerce, makes the following statement:

"The most striking phenomenon in our import trade of 1925 has been the great advance in the price of rubber, raising it, as in all probability the final figures will show, to first place among our imports. For the first 10 months, the quantity of rubber imported increased by 19 per cent over the corresponding period of 1924, but the value increased 121 per cent. During recent months, the average import price has been much more than double that for the corresponding months of 1924. Had rubber remained unchanged in price, the total value of our imports would have increased but 11 per cent instead of 17 per cent. This immense rise in the price of rubber has been at least in part due to artificial restrictions, the serious character of which Secretary Hoover has recently called to the general attention of the public."

THE SOUTHERN FREIGHT ASSOCIATION HAS APPROVED THE ESTABLISHMENT of rates on scrap rubber in mixed carloads with scrap metals from southern points to Ohio and Mississippi River Crossings, St. Louis and to Virginia cities. Scrap tires sent from Texas to Mississippi River crossings and destined to points beyond, will be forwarded at the present rates, the proposed broadening of the description of scrap rubber not having been approved.

DURING THE FIRST TEN MONTHS OF 1925 AMERICAN EXPORTS of rubber toys, balls and balloons have totaled 889,978 pounds, value \$1,082,265.



## Exports of India Rubber Manufactures from the

EXPORTED TO	Belting Value	Hose Value	Packing Value	Thread Value	Boots		Shoes		Canvas Shoes with Rubber Soles		Sole and Heel Value	Water-proofed Auto Cloth and Rubberized Fabrics Value
					Pairs	Value	Pairs	Value	Pairs	Value		
EXPORTED TO EUROPE												
Austria		\$204										\$325
Azores and Madeira Islands		10										1,956
Belgium	\$4,030	2,916	\$481	\$10,171	96	\$312					\$58	
Bulgaria												
Czechoslovakia		14										
Denmark		311	858		7,926	19,455	19,598	10,571	1,200	1,605	71	
Estonia												
Finland	5,642	61	185		1,549	5,348					9,057	156
France	715	2,675	860	64,690	791	3,072	22	23	24	49		432
Germany	61	717	67	11,633	10,206	31,055	7,848	8,435	1,440	2,786	672	2,956
Gibraltar												
Greece		162										866
Hungary												
Iceland & Faroe Islands					3,150	8,881	11,295	7,152				
Italy		915		13,713	12	25						1,961
Latvia												
Lithuania												
Malta, Gazo and Cyprus Islands											30	277
Netherlands	1,674	322					888	735	48	96	1,928	728
Norway	269			2,320	1,804	4,705	17,765	13,796	72	171	726	494
Poland and Danzig		401										
Portugal	166							1,149			69	99
Rumania							1,019	999				150
Russia in Europe	5,207	469										
Spain	1,538	489		21,189	391	1,087					376	72
Sweden	6,294	1,203	100	346	3,284	10,976	48	32			4,248	780
Switzerland		486			24	51						131
Turkey in Europe												
Ukraine												
United Kingdom	12,834	20,649	5,579	47,887	35,866	73,028	7,136	4,470	3,864	2,685	6,648	6,948
Irish Free State												
Yugoslavia, Albania, etc.												23
TOTALS, EUROPE	\$38,430	\$32,004	\$8,130	\$171,949	65,099	\$157,995	69,290	\$50,602	12,029	\$14,654	\$23,883	\$18,354
NORTH AMERICA												
Canada	\$21,173	\$9,537	\$13,600	\$10,355	1,163	\$3,878	9,153	\$9,522	2,873	\$1,464	\$2,375	\$53,379
British Honduras	155								166	229		
Costa Rica	230	102	17						420	514	1,599	268
Guatemala	1,519	355	69		42	50	150	157	766	732	3,610	
Honduras	711	1,145	59				36	28	703	615	1,657	
Nicaragua	1,170	732	149						1,579	1,267	777	140
Panama		1,111	143		48	132	172	195	1,634	1,108	183	474
Salvador	155	937	225						2,526	1,674	731	
Greenland												
Mexico	16,766	15,200	10,416		203	892	826	2,281	24,597	25,345	21,195	16,458
Miquelon & St. Pierre Islands					300	920						
Newfoundland and Labrador	1,170	859	23		2,515	6,970	1,136	2,162	500	850	818	360
Bermuda			45		22	81	7	7	374	493	224	550
Barbados									198	130		
Jamaica		247	113						2,813	2,137	767	1,770
Trinidad and Tobago		65	870				720	507	3,438	1,341	581	545
Other British West Indies	70	197	347						2,643	2,711	30	77
Cuba	3,134	17,027	6,264	102	52	198	1,073	1,048	41,478	23,303	4,423	5,229
Dominican Republic	753	853	1,588						17,763	11,998	1,135	214
Dutch West Indies		1,650	146				640	455	8,783	6,724	126	
French West Indies												
Haiti	62	15					24	13	1,450	1,008		
Virgin Islands of U. S.									191	229	126	
TOTALS, NORTH AMERICA	\$47,068	\$50,032	\$34,074	\$10,457	4,345	\$13,121	13,937	\$16,375	114,895	\$83,872	\$40,357	\$79,432
SOUTH AMERICA												
Argentina	\$7,341	\$5,775	\$5,134				378	\$244	137,556	\$79,629	\$4,904	\$8,588
Bolivia	4,059	3,050	37		48	\$186					346	
Brazil	17,809	8,017	970		30	88	3,675	2,530	120	93	3,007	1,008
Chile	15,514	3,205	390						720	777	511	2,839
Colombia	1,803	1,573	126				2,283	1,599	15,752	11,107	6,636	1,587
Ecuador		88	197				1,185	955	120	116	956	80
Falkland Islands												
British Guiana			74									129
Dutch Guiana									1,725	424		
French Guiana												
Paraguay		535	716		48	218	9	16	630	429	670	548
Peru	191	320	139						5,160	3,669	1,121	981
Uruguay							72	72	200	156	2,900	393
Venezuela	1,513	4,001	2,604									
TOTALS, SOUTH AMERICA	\$48,230	\$26,564	\$10,387		126	\$492	7,602	\$5,416	162,007	\$96,417	\$21,051	\$16,153
ASIA												
Aden												
British India	\$8,751	\$1,480	\$1,112		762	\$1,879	136	\$141	6,471	\$5,370	\$6	\$122
Ceylon		12							360	247		
Straits Settlements							36	38	8,581	5,906		985
Other British East Indies												
China	1,844	1,533	24		24	68	6,070	4,910	408	551	141	5,238
Chosen		53					120	103	12	15		
Java and Madura	7,458	1,652	938						4,800	8,192		2,280
Other Dutch East Indies	43	975	894									630
Far Eastern Republic												
French Indo-China												
Greece in Asia												
Hejaz, Arabia, etc.												
Hongkong												
Japan	3,573	1,947	14,557	\$10,981	660	2,025	3,008	2,552				1,128
Kwantung, leased territory		175		800								
Palestine and Syria		37										394
Persia												
Philippine Islands	4,874	3,209	2,953				48	80	47,364	38,179	8,351	839
Russia in Asia												
Siam	406											
Turkey in Asia												
Other Asia												
TOTALS, ASIA	\$26,949	\$11,073	\$20,478	\$11,781	1,446	\$3,972	9,418	\$7,824	67,996	\$58,460	\$8,498	\$11,616

## United States by Countries During November, 1925

Water-proofed Outer Garments Value	Pneumatic Casings		Others Value	Pneumatic Tubes		Solid Tires			Tire Rubber Accessories, Repair Materials Value	Hard Rubber Goods		Rubber Water Bottles and Fountain Syringes Value	Other Drug- gists' Rubber Sundries Value	Bathing Caps Value	Rubber Toys, Balls and Balloons Value
	Automobile			Automobile Value	Others Value	Automobile and Motor Truck		Others Value		Electrical Supplies Value	Others Value				
	Number	Value				Number	Value								
.....	25	\$519	.....	\$60	\$35	20	\$1,087	.....	\$22	.....	\$96	\$57	.....	.....	\$2,800
.....	6	124	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
\$44	892	30,024	\$138	3,871	27	.....	.....	.....	2,888	.....	.....	261	\$365	\$115	.....
.....	10	289	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	631	14,266	296	1,643	151	81	3,046	.....	296	.....	.....	.....	.....	.....	.....
44	1,563	32,500	640	3,761	18	67	1,769	.....	3,974	.....	262	156	2,056	2,441	394
.....	30	2,336	.....	316	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	531	16,100	.....	2,510	49	.....	.....	.....	1,224	.....	.....	.....	569	.....	.....
356	5,653	79,572	.....	14,905	84	10	227	.....	2,345	\$856	9,511	2,697	2,582	.....	277
.....	842	27,998	334	5,896	117	8	307	.....	1,659	.....	.....	.....	537	.....	4,696
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	36
657	1,034	18,377	.....	3,762	.....	185	11,390	.....	1,784	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	479	6,398	.....	785	.....	14	432	.....	429	.....	.....	1,317	48	.....	1,640
.....	.....	.....	.....	141	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	243
.....	2	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	6	63	.....	22	.....	.....	.....	.....	14	.....	.....	.....	.....	.....	139
.....	1,339	30,418	827	5,228	194	12	354	.....	2,674	1,400	.....	445	1,252	.....	44
.....	954	26,178	714	1,753	382	20	1,135	.....	798	502	.....	.....	201	.....	661
.....	170	2,513	.....	689	.....	.....	.....	.....	775	.....	.....	101	582	.....	.....
.....	335	5,485	76	1,132	16	48	2,578	.....	576	.....	.....	126	35	.....	.....
.....	60	974	618	79	.....	.....	.....	.....	221	.....	.....	.....	.....	.....	.....
.....	138	2,951	.....	153	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	3,566	71,281	59	11,497	13	1,072	36,992	\$93	3,184	.....	.....	735	254	.....	155
.....	1,832	36,696	37	3,894	.....	7	526	.....	174	.....	.....	171	1,255	67	141
.....	147	9,244	.....	889	.....	.....	.....	.....	.....	.....	58	28	297	.....	.....
.....	80	1,224	.....	525	.....	.....	.....	.....	784	.....	.....	.....	.....	.....	151
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1,965	11,116	150,259	1,056	15,695	300	1,864	52,603	.....	10,249	4,447	9,950	6,684	48,078	239	46,478
.....	10	116	.....	84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50
.....	.....	.....	.....	2,775	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
\$3,066	31,451	\$566,241	\$4,795	\$82,065	\$1,386	3,408	\$112,446	\$93	\$33,980	\$7,205	\$19,877	\$12,778	\$58,102	\$2,862	\$57,905
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
\$2,687	1,961	\$43,280	\$334	\$4,001	.....	146	\$4,908	\$810	\$11,869	\$30,781	\$10,347	\$904	\$25,116	\$263	\$4,486
.....	20	150	.....	79	.....	.....	.....	.....	9	.....	.....	.....	43	.....	25
.....	301	6,915	.....	671	.....	6	144	617	172	.....	.....	69	366	42	153
.....	104	2,120	.....	1,521	\$4	.....	.....	102	47	.....	545	.....	73	.....	319
.....	436	2,518	.....	148	.....	.....	.....	.....	.....	.....	.....	.....	80	.....	118
.....	110	1,114	.....	129	.....	4	140	.....	.....	.....	.....	.....	190	.....	147
.....	1,761	5,326	.....	1,930	.....	10	526	.....	178	12	4	.....	762	17	635
.....	271	6,259	52	956	.....	8	401	.....	78	.....	.....	.....	20	.....	440
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1,460	12,419	146,279	913	13,823	187	237	8,179	1,333	4,697	.....	1,189	589	2,020	.....	8,043
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4,755	14	225	.....	16	.....	.....	.....	129	47	.....	10	.....	138	.....	344
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	65	14	34
.....	35	361	.....	85	.....	12	227	.....	.....	.....	.....	.....	32	204	102
.....	122	3,335	10	534	.....	118	2,265	243	535	.....	13	.....	.....	28	80
.....	106	1,856	.....	22	.....	14	373	.....	211	.....	.....	.....	.....	.....	662
.....	157	3,131	.....	425	.....	.....	.....	253	.....	.....	.....	.....	.....	.....	59
2,689	8,418	97,755	1,557	14,223	104	424	15,631	171	6,318	36	1,046	365	4,381	.....	1,971
.....	1,218	695	.....	1,235	.....	6	164	167	191	.....	119	22	165	.....	17
.....	10	4,441	.....	404	.....	.....	.....	.....	174	.....	30	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	4	314	.....	.....	.....	.....	.....	.....	.....	.....
.....	185	4,429	.....	699	.....	.....	.....	.....	120	.....	.....	56	74	.....	13
.....	18	139	.....	277	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	118
\$15,282	26,652	\$357,381	\$2,866	\$41,178	\$295	989	\$33,272	\$3,825	\$24,646	\$30,829	\$13,304	\$2,022	\$33,525	\$568	\$17,766
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
\$294	7,810	\$114,429	.....	\$16,628	.....	381	\$15,233	\$466	\$9,401	.....	\$111	\$537	\$4,279	\$1,159	\$3,808
.....	243	6,665	.....	1,258	\$15	19	597	.....	162	.....	.....	142	64	.....	83
2,092	2,913	50,097	.....	24,354	.....	385	13,192	.....	894	.....	124	479	1,451	173	2,109
.....	57	18,251	42	1,092	.....	75	2,198	1,520	1,279	\$318	.....	46	428	.....	250
.....	554	16,674	180	4,798	.....	40	1,879	116	532	.....	85	347	1,693	216	869
.....	118	595	.....	622	.....	8	264	.....	.....	.....	.....	.....	50	.....	200
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	14	101	.....	36	.....	.....	.....	.....	21	.....	.....	10	.....	.....	588
.....	.....	.....	.....	.....	.....	5	109	.....	13	.....	.....	.....	22	.....	.....
.....	95	816	.....	835	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	121
.....	2,229	52,647	148	6,174	457	24	1,425	.....	1,395	.....	18	51	510	45	1,155
.....	44	11,727	.....	1,888	104	68	1,397	.....	19	.....	.....	175	2,173	.....	871
496	2,116	19,410	81	5,613	17	16	560	256	1,094	.....	62	94	194	.....	503
\$5,128	18,046	\$291,412	\$498	\$63,298	\$593	1,021	\$36,854	\$2,358	\$14,810	\$318	\$400	\$1,881	\$10,864	\$1,593	\$10,557
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	23	\$679	.....	.....	.....	4	\$109	.....	.....	.....	.....	.....	.....	.....	.....
\$44	1,997	30,468	.....	\$12,893	.....	254	7,329	\$17,819	\$182	.....	\$114	\$656	\$504	.....	\$6,109
.....	86	1,267	.....	1,767	.....	5	101	2,606	69	.....	.....	.....	.....	.....	.....
.....	260	4,528	\$203	1,084	.....	99	3,025	.....	592	.....	.....	.....	.....	.....	298
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
55	2,388	27,189	100	3,056	.....	34	717	.....	221	\$7	1	183	807	.....	71
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	2,819	41,289	59	10,334	107	477	18,189	11,244	2,215	.....	.....	32	165	\$164	.....
.....	92	1,499	.....	259	.....	.....	.....	.....	191	.....	.....	.....	.....	.....	55
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1,106	17,751	.....	5,155	.....	.....	.....	.....	772	.....	.....	.....	.....	.....	.....
.....	2	27	.....	8	.....	.....	.....	.....	.....	.....	.....	8	110	.....	143
.....	5,796	61,518	.....	11,191	.....	842	12,731	.....	1,160	1,173	840	236	2,799	.....	.....
.....	595	12,210	.....	3,116	.....	.....	.....	.....	71	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
294	2,789	31,600	.....	9,608	243	327	10,706	5,923	684	.....	235	403			

## Exports of India Rubber Manufactures from the

	Belting Value	Hose Value	Packing Value	Thread Value	Boots		Shoes		Canvas Shoes with Rubber Soles		Sole and Heels Value	Water-proofed Auto Cloth and Rubberized Fabrics Value
					Pairs	Value	Pairs	Value	Pairs	Value		
OCEANIA												
Australia .....	\$8,280	\$10,793	\$2,514	.....	366	\$979	168	\$146	3,678	\$4,122	.....	\$16,101
British Oceania .....	.....	.....	.....	.....	.....	.....	.....	.....	604	631	.....	.....
French Oceania .....	.....	48	.....	.....	.....	.....	.....	.....	360	426	.....	.....
New Zealand .....	.....	4,136	1,179	.....	.....	.....	.....	.....	72	144	.....	1,416
Other Oceania .....	.....	.....	.....	.....	.....	.....	.....	.....	103	121	.....	.....
TOTALS, OCEANIA .....	\$8,280	\$14,977	\$3,693	.....	366	\$979	168	\$146	4,817	\$5,444	.....	17,517
AFRICA												
Abyssinia .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belgian Congo .....	.....	.....	.....	.....	12	\$33	.....	.....	.....	.....	.....	.....
British West Africa .....	.....	.....	837	.....	.....	.....	.....	.....	.....	.....	.....	.....
British South Africa .....	\$11,890	\$5,977	3,118	.....	170	471	78	\$129	671	\$614	\$239	.....
British East Africa .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Canary Islands .....	.....	23	.....	.....	.....	.....	.....	.....	.....	.....	151	\$150
Egypt .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Algeria and Tunis .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other French Africa .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Italian Africa .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liberia .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Madagascar .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morocco .....	.....	.....	86	.....	.....	.....	.....	.....	96	199	.....	.....
Portuguese East Africa .....	.....	5,962	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Portuguese Africa .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spanish Africa .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TOTALS, AFRICA .....	\$17,852	\$6,000	\$3,241	.....	182	\$504	78	\$129	767	\$813	\$390	\$150
GRAND TOTALS .....	\$186,809	\$140,650	\$80,003	\$194,187	71,564	\$177,063	100,493	\$80,492	362,511	\$259,660	\$94,179	\$143,222

## Official India Rubber Statistics for the United States

## Imports of Crude and Manufactured Rubber

	November, 1925		Eleven Months Ended November, 1925	
	Pounds	Value	Pounds	Value
UNMANUFACTURED—Free				
Crude rubber .....	84,571,583	\$56,271,963	798,142,346	\$364,649,146
Balata .....	100,232	37,554	980,178	486,523
Jelutong or Pontianak .....	781,568	99,532	14,279,147	1,545,999
Gutta percha .....	370,986	84,974	3,303,056	567,629
Guayule .....	924,856	213,591	7,438,872	1,526,698
Rubber scrap .....	2,403,849	80,093	20,427,969	781,961
Totals .....	84,151,074	\$56,787,707	844,571,568	\$369,557,956
Chicle .....	687,894	\$313,784	10,515,843	\$5,207,231
MANUFACTURED—dutiable				
Rubber belting .....	57,561	\$40,979	680,078	\$510,895
Other rubber manufactures of substitutes for rubber .....	.....	95,860	.....	1,202,526
Totals .....	57,561	\$136,839	680,078	\$1,713,421
Exports of Foreign Merchandise				
UNMANUFACTURED				
Crude rubber .....	3,594,450	\$2,898,930	29,930,295	\$17,222,494
Balata .....	33,019	17,841	525,008	334,055
Jelutong or Pontianak .....	.....	.....	.....	.....
Gutta percha and rubber substitutes and scraps .....	.....	.....	104,879	12,524
Totals .....	3,627,469	\$2,916,771	30,560,182	\$17,569,073

## Exports of Domestic Merchandise

	November, 1924		November, 1925	
	Pounds	Value	Pounds	Value
MANUFACTURED				
India rubber				
Reclaimed .....	929,112	\$91,694	9,424,792	\$974,055
Scrap and old .....	1,577,438	124,881	29,140,275	1,479,001
Footwear				
Boots .....	71,564	177,063	817,557	1,876,093
Shoes .....	100,493	80,492	1,037,235	925,129
Canvas shoes with rubber soles .....	362,511	259,660	4,202,982	2,970,892
Rubber water bottles and fountain syringes .....	28,154	18,844	278,659	198,984
Other druggists' rubber sundries .....	95,842	116,528	886,967	990,889
Bathing caps .....	3,056	5,875	180,408	312,562

	November, 1925		Eleven Months Ended November, 1925	
	Pounds	Value	Pounds	Value
Hard rubber goods				
Electrical hard rubber goods	124,830	40,419	1,016,877	303,892
Other hard rubber goods ..	17,790	34,883	527,466	546,235
Tires				
Pneumatic casings				
For automobiles .....	100,085	\$1,644,554	1,496,080	\$18,976,561
Others .....	2,613	9,722	49,401	194,684
Pneumatic tubes				
For automobiles .....	93,867	272,564	1,357,882	2,662,424
Others .....	3,137	2,786	38,873	39,085
Solid tires				
For automobiles and motor trucks .....	9,200	307,787	102,853	2,836,955
Others .....	141,029	46,435	1,503,667	363,739
Tire accessories .....	194,033	97,613	2,214,743	980,983
Belting .....	257,324	186,809	3,766,300	2,221,429
Hose .....	332,756	140,650	4,900,072	1,911,353
Packing .....	152,107	80,003	1,725,491	793,799
Soles and heels .....	306,583	94,179	3,016,869	922,058
Thread .....	157,777	194,187	1,356,015	1,619,842
Other rubber manufactures ..	311,331	165,646	4,706,774	2,220,190
Totals .....	.....	\$4,193,274	.....	\$46,320,833
Rubber toys, balls and balloons	76,334	\$100,983	966,437	\$1,183,659

## Imports of Crude Rubber Into the United States by Customs Districts

	November, 1924		November, 1925	
	Pounds	Value	Pounds	Value
Massachusetts .....	2,349,987	\$578,399	4,163,184	\$2,475,613
New York .....	71,151,755	18,021,048	76,659,186	\$1,504,284
Philadelphia .....	168,000	78,400	.....	.....
Maryland .....	112,000	24,993	.....	.....
Los Angeles .....	1,262,712	285,124	2,968,858	1,655,575
San Francisco .....	79,610	20,626	180,825	109,587
Oregon .....	123,200	23,839	67,236	52,087
Washington .....	11,200	2,285	476,294	441,241
Colorado .....	111,248	26,026	56,000	33,578
Totals .....	75,369,712	\$19,060,740	84,571,583	\$56,271,963

\*Including Latex Dry Rubber Content.

## United States Crude and Waste Rubber Imports for 1925 (By Months)

	Plantations	Pará	Africans	Centrals	Guayule	Manicoba and Matto Grosso	Total		Balata	Miscel- laneous	Waste
							1925	1924			
January .....	28,480	989	325	54	112	...	29,960	21,611	22	1,462	206
February .....	21,740	1,203	120	224	163	6	23,456	31,763	48	908	241
March .....	31,067	1,906	287	305	346	3	33,914	17,752	25	1,022	186
April .....	25,403	1,167	332	78	244	7	27,231	42,436	38	987	243
May .....	34,187	1,834	287	263	364	14	36,889	23,914	30	816	182
June .....	28,522	990	225	294	299	7	30,337	18,840	33	1,160	243
July .....	32,147	977	335	117	321	21	33,918	18,469	46	976	371
August .....	29,921	598	160	456	364	85	31,584	20,076	36	641	388
September .....	24,777	1,486	122	500	170	16	27,071	29,000	54	506	398
October .....	31,450	1,647	106	1,263	414	28	34,908	37,157	153	1,081	199
November .....	33,066	1,629	260	690	379	26	36,050	28,660	124	633	267
December .....	35,971	1,950	451	780	329	38	39,519	24,380	166	934	1,280
Totals, 12 months, 1925.....tons	356,731	16,376	3,010	4,964	3,505	251	384,837	.....	775	11,126	4,104
Totals, 12 months, 1924.....	295,055	12,879	3,769	1,004	1,345	6	314,058	665	7,069	895	.....

Compiled from statistics supplied by the Rubber Association of America, Inc.



## United States by Countries During November, 1925 (Continued)

Water-proofed Outer Garments Value	Pneumatic Casings					Solid Tires					Tire Rubber Accessories, Repair Materials Value		Hard Rubber Goods		Rubber Water Bottles and Fountain Syringes Value	Other Drug-gists' Rubber Sundries Value	Bathing Caps Value	Rubber Toys, Balls and Balloons Value
	Automobile		Others Value	Pneumatic Tubes		Automobile and Motor Truck		Others Value	Value	Value	Value	Value	Value					
	Number	Value		Automobile Value	Others Value	Number	Value											
\$100	5,617	\$94,099	\$392	\$16,002	\$25	991	\$40,476	\$2,491	\$10,930	\$478	\$79	.....	\$4,748	.....	.....	\$3,043		
.....	8	80	35	28	.....	.....	.....	.....	38	.....	.....	.....	.....	.....	.....	.....		
.....	2	64	12	.....	.....	4	200	.....	.....	.....	.....	.....	.....	.....	.....	.....		
105	3,199	\$5,390	.....	4,980	.....	479	\$2,752	.....	2,489	86	33	.....	1,326	.....	.....	90		
.....	12	222	.....	.....	.....	.....	.....	76	.....	.....	.....	.....	.....	.....	.....	536		
\$205	8,838	\$149,855	\$439	\$21,010	\$25	1,474	\$63,428	\$2,567	\$13,457	\$564	\$112	.....	\$6,074	.....	.....	\$4,029		
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
\$855	30	\$1,583	.....	\$54	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	\$212		
1,197	1,255	18,031	\$437	596	\$64	65	\$2,112	.....	\$3,801	\$83	.....	.....	\$321	\$686	\$499	2,122		
.....	844	13,602	303	2,639	66	.....	.....	.....	226	.....	.....	.....	.....	.....	.....	.....		
.....	478	8,210	.....	637	.....	49	2,510	.....	.....	.....	.....	.....	.....	.....	.....	.....		
.....	316	5,463	.....	1,382	.....	150	4,238	.....	160	240	.....	.....	80	555	.....	.....		
.....	30	360	.....	550	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
45	120	1,754	.....	452	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
627	.....	.....	.....	.....	.....	2	20	.....	124	.....	.....	.....	.....	.....	.....	45		
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
.....	82	937	.....	232	.....	.....	.....	.....	166	.....	.....	.....	.....	.....	.....	.....		
\$2,724	3,155	\$49,940	\$740	\$6,542	\$136	266	\$8,880	.....	\$4,477	\$323	.....	.....	\$401	\$1,241	\$499	\$2,379		
\$26,798	106,085	\$1,644,554	\$9,722	\$272,564	\$2,786	9,200	\$307,787	\$46,435	\$97,613	\$40,419	\$34,883	\$18,844	\$116,528	\$5,875	.....	\$100,983		

## United Kingdom Rubber Statistics

Imports					Exports—Colonial and Foreign				
November, 1925					November, 1925				
UNMANUFACTURED	Pounds	Value	Pounds	Value	UNMANUFACTURED	Pounds	Value	Pounds	Value
Crude rubber					Crude Rubber				
From—					To—				
Straits Settlements.....	6,317,800	£1,257,211	66,709,200	£9,093,266	Russia.....	425,800	£80,303	12,438,000	£1,135,769
Federated Malay States...	3,301,000	665,054	26,761,700	3,686,453	Sweden, Norway and Den-				
British India.....	677,100	143,000	9,045,600	1,055,753	mark.....	290,900	49,004	2,059,600	237,209
Ceylon and Dependencies...	2,280,000	459,992	24,789,900	3,430,540	Germany.....	610,500	99,994	18,749,100	1,965,038
Other Dutch possessions in					Belgium.....	258,800	44,498	4,480,500	486,732
Indian Seas.....	755,500	154,272	7,955,900	996,016	France.....	2,371,000	451,802	34,818,000	4,257,204
Dutch East Indies (except					Spain.....	127,500	23,129	717,100	83,027
other Dutch possessions in					Italy.....	1,069,989	210,989	10,269,000	1,237,125
Indian Seas).....	1,756,400	349,654	16,962,600	2,276,873	Austria.....	2,200	330	121,900	11,220
Other countries in East In-					Hungary.....	400	88	24,700	3,536
dies and Pacific, not else-					Other European countries...	127,500	24,134	1,869,700	183,326
where specified.....	175,900	33,385	1,816,000	253,132	United States.....	7,106,900	1,332,170	81,419,900	9,142,409
Brazil.....	1,493,300	195,784	8,105,000	778,704	Canada.....	68,900	13,160	4,502,700	434,252
Peru.....	23,100	2,046	38,500	3,696	Other countries.....	58,600	7,992	963,600	107,081
South and Central America					Totals.....	12,518,000	£2,337,793	172,433,800	£19,283,928
(except Brazil and Peru)	181,700	26,182	274,000	37,813	Waste and reclaimed rubber...	23,100	£574	276,300	£6,953
West Africa.....					Gutta percha and balata....	112,400	13,300	840,100	82,224
French West Africa....	196,300	13,150	1,326,200	77,562	Rubber substitutes.....	4,200	167	95,000	4,514
Gold Coast.....	194,300	20,042	425,800	47,413	Totals.....	139,700	£14,241	1,211,400	£93,691
Other parts of West Africa	323,800	40,405	1,325,900	146,629	MANUFACTURED				
East Africa, including Mada-					Boots and shoes.... <i>dos. pairs</i>	738	£1,971	5,085	£13,457
gascar.....	164,500	31,218	817,100	112,900	Tires and tubes				
Other countries.....	200,900	38,452	1,384,000	199,055	Pneumatic				
Totals.....	18,041,700	£3,429,847	167,737,400	£22,195,804	Outer covers.....		38,159	.....	417,703
Waste and reclaimed rubber...	686,000	£14,958	6,592,400	£93,010	Inner tubes.....		7,130	.....	63,800
Gutta percha and balata....	944,800	133,270	9,485,700	1,279,377	Solid tires.....		8,928	.....	36,322
Rubber substitutes.....	1,500	35	145,700	5,970	Other rubber manufactures..		5,924	.....	152,070
Totals.....	1,632,300	£148,263	16,223,800	£1,378,357	Totals.....		£62,112	.....	£683,352
MANUFACTURED									
Boots and shoes.... <i>dos. pairs</i>	19,198	£67,151	296,901	£760,307					
Tires and tubes									
Pneumatic									
Outer covers.....		201,858	.....	2,730,814					
Inner tubes.....		33,033	.....	405,015					
Solid tires.....		30,164	.....	356,442					
Other rubber manufactures..		150,570	.....	1,548,882					
Totals.....		£482,776	.....	£5,801,460					

## Landings, Deliveries and Stocks in London and Liverpool as Returned by the Warehouses and Wharves During the Month of November, 1925

	Landed for November Tons	Delivered for November Tons	Stocks, November, 30		
			1925 Tons	1924 Tons	1923 Tons
LONDON:					
Plantation.....	5,218	6,419	3,747	33,463	59,724
Other grades.....	32	32	33	94	81
LIVERPOOL:					
Plantation.....	† 355	† 344	† 466	12,881	16,048
Para and Peruvian....	180	208	267	81	232
Other grades.....	.....	1	18	111	212
Total tons London and Liverpool.....	5,785	7,004	4,531	36,630	66,297

† Official returns from the six recognized public warehouses.

## Crude Rubber Arrivals at New York as Reported by Importers

## Parás and Caucho

	Fine Cases	Medium Cases	Coarse Cases	Caucho Cases	Cametá Cases		Fine Cases	Medium Cases	Coarse Cases	Caucho Cases	Cametá Cases
DECEMBER 22. By "Westphalia," Hamburg.						General Rubber Co.	254	15	100	53	37
Meyer & Brown, Inc.				57		L. Littlejohn & Co., Inc.	166			7	
DECEMBER 23. By "Thespis," Manaus.						Meyer & Brown, Inc.			92		
H. A. Astlett & Co., Inc.	211		162	4		Poel & Kelly, Inc.		1	108	184	
General Rubber Co.	705	83	214	262	94						
L. Littlejohn & Co., Inc.	136	3	91	98		JANUARY 7. By "Onega," Iquitos.					
Meyer & Brown, Inc.			107			H. A. Astlett & Co., Inc.	36		7	3	
Poel & Kelly, Inc.	330	1	264	66		JANUARY 17. By "Polycarp," Brazil.					
JANUARY 5. By "Stephen," Manaus.						General Rubber Co.	33		30		
H. A. Astlett & Co., Inc.	191		31	37		Meyer & Brown, Inc.	35		93	215	

## Plantations

	CASES		CASES		CASES
DECEMBER 17. By "Gaelic Prince," Far East.		DECEMBER 26. By "Cape Town Maru," Hamburg.		JANUARY 7. By "Saparaea," Far East.	
H. A. Astlett & Co., Inc.	678	General Rubber Co.	50	H. A. Astlett & Co., Inc.	627
Baird Rubber & Trading Co., Inc.	1,576			H. A. Astlett & Co., Inc.	352
General Rubber Co.	4,798	DECEMBER 29. By "Albert Ballin," Hamburg.		General Rubber Co.	4,122
Hood Rubber Co.	436	L. Littlejohn & Co., Inc.	144	Haldane, Bierrie & Co., Inc.	284
L. Littlejohn & Co., Inc.	4,191	Chas. T. Wilson Co., Inc.	71	L. Littlejohn & Co., Inc.	3,224
Meyer & Brown, Inc.	1,085			Meyer & Brown, Inc.	2,326
Raw Products Co.	357	DECEMBER 29. By "Eurylochus," Singapore.		H. Muehlstein & Co., Inc.	460
Chas. T. Wilson Co., Inc.	1,498	H. A. Astlett & Co., Inc.	965	Poel & Kelly, Inc.	521
		H. A. Astlett & Co., Inc.	81	Raw Products Co.	149
DECEMBER 17. By "Pres. Garfield," Far East.		Baird Rubber & Trading Co., Inc.	2,999	Chas. T. Wilson Co., Inc.	167
H. A. Astlett & Co., Inc.	845	General Rubber Co.	11,204		
Baird Rubber & Trading Co., Inc.	4,034	Haldane, Bierrie & Co., Inc.	100	JANUARY 8. By "Minnekahda," London.	
General Rubber Co.	2,215	Hood Rubber Co.	380	L. Littlejohn & Co., Inc.	385
Hood Rubber Co.	3,112	L. Littlejohn & Co., Inc.	3,309		
L. Littlejohn & Co., Inc.	3,103	Meyer & Brown, Inc.	3,044	JANUARY 8. By "Thuringia," Hamburg.	
Meyer & Brown, Inc.	380	H. Muehlstein & Co., Inc.	720	H. Muehlstein & Co., Inc.	62
Chas. T. Wilson Co., Inc.	446	Poel & Kelly, Inc.	856		
		Raw Products Co.	1,692	JANUARY 9. By "Silverlarch," Far East.	
DECEMBER 19. By "Crosby Hall," Far East.		Chas. T. Wilson Co., Inc.	262	H. A. Astlett & Co., Inc.	175
General Rubber Co.	34			H. A. Astlett & Co., Inc.	177
L. Littlejohn & Co., Inc.	127	DECEMBER 29. By "Maimyo," Far East.		General Rubber Co.	2,744
Raw Products Co.	350	General Rubber Co.	1,540	L. Littlejohn & Co., Inc.	2,755
Chas. T. Wilson Co., Inc.	374	Meyer & Brown, Inc.	80	Meyer & Brown, Inc.	1,892
				Meyer & Brown, Inc.	175
DECEMBER 20. By "Ansonia," London.		DECEMBER 29. By "Vardulia," London.		H. Muehlstein & Co., Inc.	508
General Rubber Co.	825	Baird Rubber & Trading Co., Inc.	60	Poel & Kelly, Inc.	831
L. Littlejohn & Co., Inc.	1,315	General Rubber Co.	491	Raw Products Co.	325
		L. Littlejohn & Co., Inc.	667	Chas. T. Wilson Co., Inc.	264
DECEMBER 21. By "New Amsterdam," Rotterdam.					
General Rubber Co.	851	DECEMBER 29. By "Walton Hall," Far East.		JANUARY 11. By "Bordeaux Maru," Far East.	
Haldane, Bierrie & Co., Inc.	130	H. A. Astlett & Co., Inc.	610	General Rubber Co.	1,424
L. Littlejohn & Co., Inc.	1,380	Baird Rubber & Trading Co., Inc.	324	L. Littlejohn & Co., Inc.	316
H. Muehlstein & Co., Inc.	220	General Rubber Co.	2,405	Meyer & Brown, Inc.	281
Raw Products Co.	50	Hood Rubber Co.	192	Chas. T. Wilson Co., Inc.	79
		L. Littlejohn & Co., Inc.	3,865		104
DECEMBER 21. By "Siantar," Far East.		Meyer & Brown, Inc.	1,652	JANUARY 12. By "Elkton," Far East.	
H. A. Astlett & Co., Inc.	523	H. Muehlstein & Co., Inc.	490	H. A. Astlett & Co., Inc.	762
H. A. Astlett & Co., Inc.	75	Poel & Kelly, Inc.	50	Baird Rubber & Trading Co., Inc.	1,434
Baird Rubber & Trading Co., Inc.	224	Raw Products Co.	124	General Rubber Co.	5,526
General Rubber Co.	5,547			Haldane, Bierrie & Co., Inc.	150
L. Littlejohn & Co., Inc.	3,538	DECEMBER 30. By "Minnewaska," London.		L. Littlejohn & Co., Inc.	1,645
Meyer & Brown, Inc.	2,303	L. Littlejohn & Co., Inc.	1,767	Meyer & Brown, Inc.	2,948
H. Muehlstein & Co., Inc.	1,200			Meyer & Brown, Inc.	65
Poel & Kelly, Inc.	747	JANUARY 1. By "Steel Worker," Far East.		H. Muehlstein & Co., Inc.	85
Raw Products Co.	127	L. Littlejohn & Co., Inc.	32	Poel & Kelly, Inc.	1,121
Chas. T. Wilson Co., Inc.	260	Meyer & Brown, Inc.	250	Raw Products Co.	293
				JANUARY 12. By "Volendam," Rotterdam.	
DECEMBER 22. By "American Shipper," London.		JANUARY 3. By "Silverelm," Far East.		General Rubber Co.	50
H. A. Astlett & Co., Inc.	88	H. A. Astlett & Co., Inc.	433		
L. Littlejohn & Co., Inc.	93	Baird Rubber & Trading Co., Inc.	150	JANUARY 13. By "Masirah," Far East.	
		General Rubber Co.	5,406	General Rubber Co.	2,849
DECEMBER 22. By "Westphalia," Hamburg.		L. Littlejohn & Co., Inc.	767	Hood Rubber Co.	276
L. Littlejohn & Co., Inc.	42	Meyer & Brown, Inc.	1,753	L. Littlejohn & Co., Inc.	1,749
Raw Products Co.	80	H. Muehlstein & Co., Inc.	461	Meyer & Brown, Inc.	1,472
Chas. T. Wilson Co., Inc.	108	Poel & Kelly, Inc.	1,110	Meyer & Brown, Inc.	624
		Chas. T. Wilson Co., Inc.	385	H. Muehlstein & Co., Inc.	160
DECEMBER 23. By "Atlantic City," Far East.				H. Muehlstein & Co., Inc.	480
H. A. Astlett & Co., Inc.	1,847	JANUARY 4. By "City of Valencia," Far East.		Chas. T. Wilson Co., Inc.	370
Baird Rubber & Trading Co., Inc.	500	L. Littlejohn & Co., Inc.	470		
General Rubber Co.	2,988			JANUARY 13. By "Minnetonka," Far East.	
Hood Rubber Co.	120	JANUARY 4. By "Haleric," Far East.		General Rubber Co.	96
L. Littlejohn & Co., Inc.	3,078	General Rubber Co.	84	L. Littlejohn & Co., Inc.	981
Meyer & Brown, Inc.	2,859	L. Littlejohn & Co., Inc.	113		
H. Muehlstein & Co., Inc.	240	Meyer & Brown, Inc.	15	Baird Rubber & Trading Co., Inc.	725
Poel & Kelly, Inc.	1,884	Chas. T. Wilson Co., Inc.	168	General Rubber Co.	1,560
Raw Products Co.	60			Hood Rubber Co.	238
Chas. T. Wilson Co., Inc.	320	JANUARY 4. By "Missouri," Havre.		L. Littlejohn & Co., Inc.	3,811
		General Rubber Co.	54	Meyer & Brown, Inc.	1,470
DECEMBER 24. By "City of Florence," Far East.		L. Littlejohn & Co., Inc.	228	Meyer & Brown, Inc.	450
General Rubber Co.	2,306			Poel & Kelly, Inc.	1,091
L. Littlejohn & Co., Inc.	235	JANUARY 7. By "Bankdale," Far East.		Raw Products Co.	150
Meyer & Brown, Inc.	346	General Rubber Co.	100	Chas. T. Wilson Co., Inc.	174
H. Muehlstein & Co., Inc.	129				
H. Muehlstein & Co., Inc.	160	JANUARY 7. By "Langton Hall," Singapore.		JANUARY 15. By "Howes Castle," Far East.	
		H. A. Astlett & Co., Inc.	1,457	Baird Rubber & Trading Co., Inc.	2,797
DECEMBER 24. By "Wray Castle," Far East.		Baird Rubber & Trading Co., Inc.	4,198	General Rubber Co.	8,321
H. A. Astlett & Co., Inc.	1,830	General Rubber Co.	5,920	Hood Rubber Co.	700
H. A. Astlett & Co., Inc.	66	Haldane, Bierrie & Co., Inc.	532	L. Littlejohn & Co., Inc.	7,709
Baird Rubber & Trading Co., Inc.	5,539	L. Littlejohn & Co., Inc.	5,871	Meyer & Brown, Inc.	4,246
General Rubber Co.	506	Meyer & Brown, Inc.	2,105	Meyer & Brown, Inc.	563
Hood Rubber Co.	2,644	Meyer & Brown, Inc.	371	Poel & Kelly, Inc.	125
L. Littlejohn & Co., Inc.	2,117	H. Muehlstein & Co., Inc.	640		
Meyer & Brown, Inc.	524	H. Muehlstein & Co., Inc.	120	JANUARY 15. By "Deutschland," Rotterdam.	
Meyer & Brown, Inc.	700	Poel & Kelly, Inc.	618	Meyer & Brown, Inc.	36
H. Muehlstein & Co., Inc.	2,133	Raw Products Co.	376		
Poel & Kelly, Inc.	563	Chas. T. Wilson Co., Inc.	1,595	JANUARY 15. By "Iverbank," Singapore.	
Raw Products Co.	956			Baird Rubber & Trading Co., Inc.	168
Chas. T. Wilson Co., Inc.				General Rubber Co.	56
				Hood Rubber Co.	164
				L. Littlejohn & Co., Inc.	638
				Meyer & Brown, Inc.	28
				Chas. T. Wilson Co., Inc.	252

\*Arrived at Boston.

†Penang.

‡Cases Mixed Grades.

CASES		PACKAGES	
JANUARY 16. By "Pres. Monroe," Singapore.		JANUARY 12. By "Bowes Castle," Far East.	
Baird Rubber & Trading Co., Inc.	2,371	Poel & Kelly, Inc.	1320
General Rubber Co.	2,475		
Hood Rubber Co., Inc.	803	JANUARY 12. By "Volendam," Rotterdam.	
L. Littlejohn & Co., Inc.	4,691	L. Littlejohn & Co., Inc.	195
Meyer & Brown, Inc.	990	JANUARY 17. By "Schodock," Paris.	
		Meyer & Brown, Inc.	636
Africans		Balata	
DECEMBER 19. By "Rochambeau," Havre.		DECEMBER 18. By "Haiti," French Guiana.	
L. Littlejohn & Co., Inc.	106	Middleton & Co., Ltd.	44
DECEMBER 20. By "Sarcosie," Bordeaux.		DECEMBER 23. By "Thespi," Brazil.	
L. Littlejohn & Co., Inc.	806	General Rubber Co.	18
DECEMBER 21. By "Regina," Liverpool.		JANUARY 5. By "Stephen," Brazil.	
L. Littlejohn & Co., Inc.	252	General Rubber Co.	14
DECEMBER 21. By "Sanitar," Far East.		DECEMBER 10. By "Railways," Mexico.	
Hood Rubber Co.	20		
DECEMBER 23. By "Paris," Havre.		Guayale	
L. Littlejohn & Co., Inc.	102	Cases	
DECEMBER 25. By "Cape Town Maru," Hamburg.		Continental Rubber Co. of New York	500
L. Littlejohn & Co., Inc.	99	DECEMBER 12. By "Railways," Mexico.	
DECEMBER 29. By "Albert Ballin," Hamburg.		Continental Rubber Co. of New York	336
L. Littlejohn & Co., Inc.	90	DECEMBER 18. By "Railways," Mexico.	
DECEMBER 29. By "Walton Hall," Far East.		Continental Rubber Co. of New York	560
Poel & Kelly, Inc.	1102	DECEMBER 19. By "Railways," Mexico.	
DECEMBER 30. By "Alaunia," Europe.		Continental Rubber Co. of New York	500
L. Littlejohn & Co., Inc.	73	DECEMBER 21. By "Canto," Mexico.	
JANUARY 5. By "Missouri," Antwerp.		Continental Rubber Co. of New York	560
Meyer & Brown, Inc.	426	DECEMBER 28. By "Mexico," Mexico.	
JANUARY 5. By "Stephen," Brazil.		Continental Rubber Co. of New York	1,120
L. Littlejohn & Co., Inc.	105	DECEMBER 29. By "Albert Ballin," Hamburg.	
JANUARY 9. By "Silverlarch," Far East.		H. Muchstein & Co., Inc.	100
Poel & Kelly, Inc.	151	JANUARY 9. By "Panuco," Mexico.	
JANUARY 11. By "Bordeaux Maru," Far East.		Continental Rubber Co. of New York	560
Poel & Kelly, Inc.	153	JANUARY 9. By "H. R. Mallory," Mexico.	
		Continental Rubber Co. of New York	1,120

## Manicobas

Bales	
DECEMBER 20. By "Romney," Brazil.	
J. H. Rossbach & Bros., Inc.	39
DECEMBER 26. By "Castilian Prince," Brazil.	
J. H. Rossbach & Bros., Inc.	30
JANUARY 3. By "Bruyere," Brazil.	
Adolph Hirsch & Co., Inc.	10,933
JANUARY 7. By "Stephen," Brazil.	
J. H. Rossbach & Bros., Inc.	12

## Mangabeira

Pounds	
DECEMBER 26. By "Castilian Prince," Brazil.	
Adolph Hirsch & Co., Inc.	2,411
JANUARY 1. By "Haleakala," Brazil.	
Adolph Hirsch & Co., Inc.	7,203

## Rubber Latex

Gallons	
DECEMBER 21. By "Siantar," Far East.	
General Rubber Co.	199,276
DECEMBER 23. By "Atlantic City," Far East.	
General Rubber Co.	37,562
JANUARY 7. By "Saparoa," Far East.	
General Rubber Co.	187,501
JANUARY 11. By "Silverlarch," Far East.	
General Rubber Co.	105,968
JANUARY 15. By "Bowes Castle," Far East.	
General Rubber Co.	109,670

## Rubber Statistics for the Dominion of Canada

## Imports of Crude and Manufactured Rubber

	October, 1925		Seven Months Ended October, 1925	
	Pounds	Value	Pounds	Value
UNMANUFACTURED				
Rubber, gutta percha, etc.				
From United Kingdom	201,450	\$135,039	1,897,626	\$935,807
United States	3,368,904	2,499,976	18,628,728	11,582,620
Straits Settlements	409,927	267,745	3,228,688	1,605,137
Dutch East Indies	39,058	30,364	385,501	199,140
Other countries	11,200	6,880	67,200	26,977
Totals	4,030,539	\$2,940,004	24,207,743	\$14,349,681
Rubber, recovered	635,878	\$74,696	4,281,795	\$470,439
Rubber, powdered and rubber or gutta percha scrap	754,764	48,618	3,263,154	181,027
Balata			1,195	1,026
Rubber substitutes	42,298	11,215	386,952	53,440
Totals	1,432,940	\$134,529	7,933,096	\$705,932
PARTLY MANUFACTURED				
Hard rubber sheets and rods	7,099	\$6,616	135,789	\$80,584
Hard rubber tubes		169		663
Rubber thread not covered	11,880	13,715	99,547	103,864
Totals	18,979	\$20,500	235,336	\$185,111
MANUFACTURED				
Beltting		\$16,762		\$147,672
Hose		9,526		108,861
Packing		3,532		24,919
Boots and shoes	5,165	8,287	23,160	42,015
Clothing, including water-proofed		10,687		112,085
Gloves		1,706		9,267
Hot water bottles		4,177		8,713
Tires, solid	103	2,992	627	20,144
Tires, pneumatic	2,643	63,651	21,188	346,908
Inner tubes	2,763	11,274	14,985	41,917
Elastic, round or flat		17,610		132,098
Mats and matting		1,442		13,383
Cement		4,791		30,662
Golf balls	472	2,135	25,739	108,229
Heels, rubber	23,321	1,195	90,266	7,431
Other rubber manufactures		135,055		896,421
Total		\$294,822		\$2,050,725
Totals, rubber imports		\$3,389,853		\$17,291,449

## Exports of Domestic and Foreign Rubber Goods

	October, 1925		Seven Months Ended October, 1925	
	Produce of Canada Value	Re-exports of Foreign Goods Value	Produce of Canada Value	Re-exports of Foreign Goods Value
UNMANUFACTURED				
Crude and waste rubber	\$13,519		\$196,336	
Total	\$13,519		\$196,336	
MANUFACTURED				
Beltting	\$88,205		\$314,105	
Canvas shoes with rubber soles	295,266		1,549,854	
Boots and shoes	185,811		1,183,256	
Clothing, including water-proofed	7,020		29,794	
Hose	28,067		135,158	
Tires, casings	962,736		5,584,009	
Inner tubes	182,292		983,819	
Solid	22,989		128,330	
Other rubber manufactures	33,327	\$29,596	228,029	\$78,349
Totals	\$1,805,713	\$29,596	\$10,136,354	\$78,349
Totals, rubber exports	\$1,819,232	\$29,596	\$10,332,690	\$78,349

## INCREASE IN AMERICAN RUBBER IMPORTS AND EXPORTS

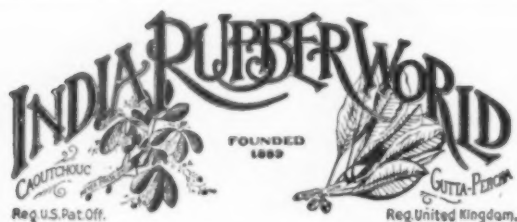
Statistics appearing in *Our World Trade*, January-September, 1925, as issued by the Chamber of Commerce of the United States, show that American exports of all classes of goods advanced 12 per cent during the period indicated as compared with the year previous, while imports were 15 per cent greater, a total trade exceeding in value that of any full year prior to 1916.

During this nine months period of 1925 the imports of crude rubber and rubber latex reached a value of \$258,350,000 as compared with \$118,943,000 for the corresponding months of 1924, a gain of 117.2 per cent. In a quantity comparison, the amount of crude rubber imported was estimated at 637,265,000 pounds for 1925 as against 514,477,000 for 1924, a gain of 23.9 per cent.

Exports of automobile tires for the 1925 period numbered 1,343,000 as against 993,000 for 1924, a gain of 35.2 per cent, with the 1925 value at \$17,580,000, as against \$13,275,000 for 1924, a gain of 32.4 per cent. Rubber footwear exported January-September, 1925, totaled 4,999,000 pairs, as against 4,461,000 pairs for the nine months of 1924, a gain of 12.1 per cent.

DURING THE FIRST TEN MONTHS OF 1925 THE UNITED KINGDOM exported 248,187 dozen pairs of rubber boots and shoes, the total value being £388,799. The leading customers for these goods included British India, Australia, and New Zealand, while other important markets were Germany, the Netherlands, the Irish Free State, British South Africa, Egypt, Norway and Denmark. The figures compare favorably with those for the corresponding ten months of the year previous, or 216,455 dozen pairs, value £339,365.





Vol. 73      FEBRUARY 1, 1926      No. 5

### TABLE OF CONTENTS

Editorials	Pages
Rubber and National Interdependence.....	251
A new Synthetic Mirage Looms.....	251-252
Management and Men.....	252
Minor Editorials.....	252
Rubber Prices Probed by United States Government..	253-254
The Rubber Association of America, Inc.	
Annual Meeting, Report of.....	255-257
Portraits of Officers and Directors.....	256
Twenty-Sixth Annual Dinner.....	257-258
Mold Curing Balloon and Truck Tubes ..	259-260
Foreign Trade Circulars.....	260
Inquiries and Trade Opportunities.....	260
National Automobile Show.....	261-262
Drop-Center Tire Rims.....	262
Chemistry	
What the Rubber Chemists Are Doing. Illustrated	263-265
Chemical Patents.....	265
Aluminum Flake a Rubber Reenforcing Pigment....	266
New Machines and Appliances.....	267-269
Rotary Vacuum Drier. Tire Flap Curing Machine. Automatic Compound Weighing Machine. Improved Watch Case Vulcanizer. Crodon—The New Chrome-Alloy Plate. Rubber Heel Trimmer. Factory Sanitary Washbowls. Motion and Operation Recorders.	
Machinery Patents.....	269-270
Dies for Forming Hollow Rubber Articles. Vulcanizing Apparatus. Tire Stripping Machine. Apparatus for Drying Sheet Material. Tire Vulcanizing Apparatus. Feeding Apparatus for Cutting Machines. Vulcanizing Mold for Rubber Footwear. Apparatus for Treating Rubber. Bead-Buffering Machine. Steam Heated Air Bag. Machine for Forming Annular Blanks for Inner Tubes. Other Machinery Patents.	
Process Patents.....	270
Editor's Book Table.....	271
"Dielectric Constant, Power Factor and Resistivity of Rubber and Gutta Percha." "Zinc Oxide History, Manufacture and Properties as a Pigment." "Bulletin of the National Research Council." "Rubber in the Netherlands East Indies." "United States Government Master Specifications.	
Holiday Greetings, Calendars, Souvenirs.....	271-272
New Trade Publications.....	272
Legal Decisions.....	272
Abstracts of Recent Articles.....	273
New Goods and Specialties.....	274-276
Rubberized Quilt. Gun Recoil Pads. Rubber Bulb Bowls. Rubbadubdub Glove Toys. Waterproof Hat-Cap. Rubber Kneeling Mat. Cushioned Baseball. Bus Heavy Duty Tube. Rubber Toy and Combination Baskets. Kemi-Suede Waterproof Covering. Combination Air and Hot Water Cushion. New Device for Telephone Use. Keeps Shirt and Trousers Snug. Rim Liner. Golf Home Trainer. Puncture Plug Tire Rivet. Automatic Fastener Gaiter. Cushioned Rubber Stamp.	

	Pages
Obituary Record.....	277-278
George M. Stadelman (Portrait). George H. Hamilton (Portrait). J. O. Stokes. Frederick T. Ryder (Portrait). August Klipstein. W. E. Young. George H. Mayo.	
Rubber Planting Investments.....	278
Twenty Million Motor Vehicles.....	278
American Rubber Trade—News and Personals	
Rubber Industry Outlook.....	279
Financial.....	279-280
Dividends.....	280
Stock Quotations.....	280
New Incorporations.....	280-281
East and South.....	281
J. C. Weston.....	282
New Jersey.....	282-283
J. E. Stone.....	283
Massachusetts.....	283
Ohio.....	284-285
Midwest.....	285
Pacific Coast.....	285-286
Canada.....	286-287
When America Goes Rubber Planting. By Vincent Sauchelli, B.Sc.....	287
Foreign Rubber News.....	288-289
Great Britain. Germany.	
Planting.....	290-291
Malaya. Ceylon. Netherlands East Indies.	
Patents.....	292-293
United States. Canada. United Kingdom. Germany.	
Trade Marks.....	293-294
United States. Canada. New Zealand. United Kingdom.	
Designs.....	295
United States. Canada. Germany.	
Markets	
Crude Rubber, Annual Review.....	295-296
New York Spot Rubber Prices 1919-1925 Graph	295
Highest and Lowest New York Spot Rubber Prices 1917-1925.....	296
Monthly Review.....	298-299
New York Average Spot Rubber Prices.....	298
Highest and Lowest New York Spot Rubber Prices.....	299
Reclaimed Rubber.....	300
Rubber Scrap.....	300
Chemicals and Other Ingredients.....	301-302
Cotton and Other Fabrics, Annual Review.....	297
Monthly Review.....	303
Metal Market Review.....	305
Rubber Association of America, Inc.....	302
Production, Inventory and Shipments of Tires.	
The Cotton Outlook.....	304
Report of Rims Inspected and Approved by the Tire & Rim Association.....	305
Statistics	
Canada, Statistics for October, 1925.....	311
Dutch East Indies Rubber Exports.....	300
Malaya, British Rubber Exports.....	299
United Kingdom Rubber Statistics for November, 1925.....	309
London and Liverpool Landings, Deliveries and Stocks.....	309
United States	
Exports of India Rubber Manufactures During November, 1925.....	306-309
Crude Rubber Arrivals at New York as Reported by Importers.....	310-311
Custom House Statistics.....	308
Imports by Months, During 1925.....	308
Statistics for November, 1925.....	308

# VAUGHN

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## VAUGHN EQUIPMENT

FOR THE

## RUBBER MILLS

*Includes:*

CALENDERS  
REFINERS  
MILLS  
WASHERS  
CRACKERS  
GEAR UNITS  
WATER SEPARATORS, Etc.

THE VAUGHN MACHINERY COMPANY  
CUYAHOGA FALLS OHIO

# MACHINERY

## Our Publicity Page

### *Accomplishment and Prospects*

THE year just passed brought notable prosperity to general business and industry. The advance in the automobile output was of record proportions and consequently the same was true of the production of tires, tubes and automobile accessories.

Economic prospects for 1926 are most promising on every hand. In this connection the Secretary of Commerce warns against reckless optimism, asserting that we need to keep our financial controls well in hand, that our national efficiency may continue to increase our prosperity.

### *Publicity*

The following remarks, made before the World Motor Transport Congress in New York by the president of a leading automobile company, are of interest: "Publicity," he said, "will not take the place of advertising. Publicity will not sell goods except in so far as a good name is an asset to any institution and the product which it merchandises."

This truth is sometimes not fully realized by those who have products to sell yet miss the advantages of advertising in a systematic way.

### *Advertising*

Makers and dealers in machinery, materials and the numerous requisites of rubber manufacturing supplies, can convert the present encouraging business outlook into actual sales and profits by consistently presenting their goods to the rubber industry through *The India Rubber World*. This paper is not only the pioneer journal of the rubber industry, known and esteemed for 36 years throughout the world, but its position as the leading exponent of the trade is unique and permanent.

No line of interest and development is overlooked, whether of planting and marketing crude rubber, manufacturing in its many lines, chemistry, technology, books, patents, markets, etc. All have their place and hold the interest of the rubber man in his industry and the advertiser on whom he has a real dependence.

### *A Current Reference Book*

Many factory men closely scan the advertising columns of *The India Rubber World*, ever alert for the announcements of new and old advertisers alike. Executives, superintendents, chemists and technologists in every country where rubber is cultivated, manufactured or used turn to each succeeding issue for rubber news, suggestions, developments and advertisers' announcements.

*The India Rubber World* is found in the reception rooms and offices of every rubber and reclaiming plant, abroad as well as in America, serving as a ready reference to the best in the rubber field. For this reason the advertisers' products are always in evidence under the most advantageous circumstances whatever he may offer either of manufacturing facilities and supplies or of rubber goods for every industrial or personal need.

### *Unique in Its Prestige*

Thus, the unique and unquestioned value of *The India Rubber World*, as an advertising medium, lies in its long established prestige in the esteem of makers, dealers and users of rubber goods who look to it, as have their predecessors for more than a generation, as their helper and guide in technical perplexities.

So true is this that the paper often has an established place on the reading table in the home of the rubber executive as well as on his office desk.

# CARBON BLACK

## GODFREY L. CABOT, Inc.

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BOSTON, MASS.

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San Francisco   Pittsburgh  
St. Louis   Cincinnati

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